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LAND USE  
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in the  
EASTERN SLOPES

PROCEEDINGS  
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JUNE - JULY, 1973

PART II

LETHBRIDGE

ENVIRONMENT CONSERVATION  
AUTHORITY

ALBERTA



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LAND USE  
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EASTERN SLOPES

PROCEEDINGS  
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PUBLIC HEARINGS

JUNE - JULY, 1973

PART II

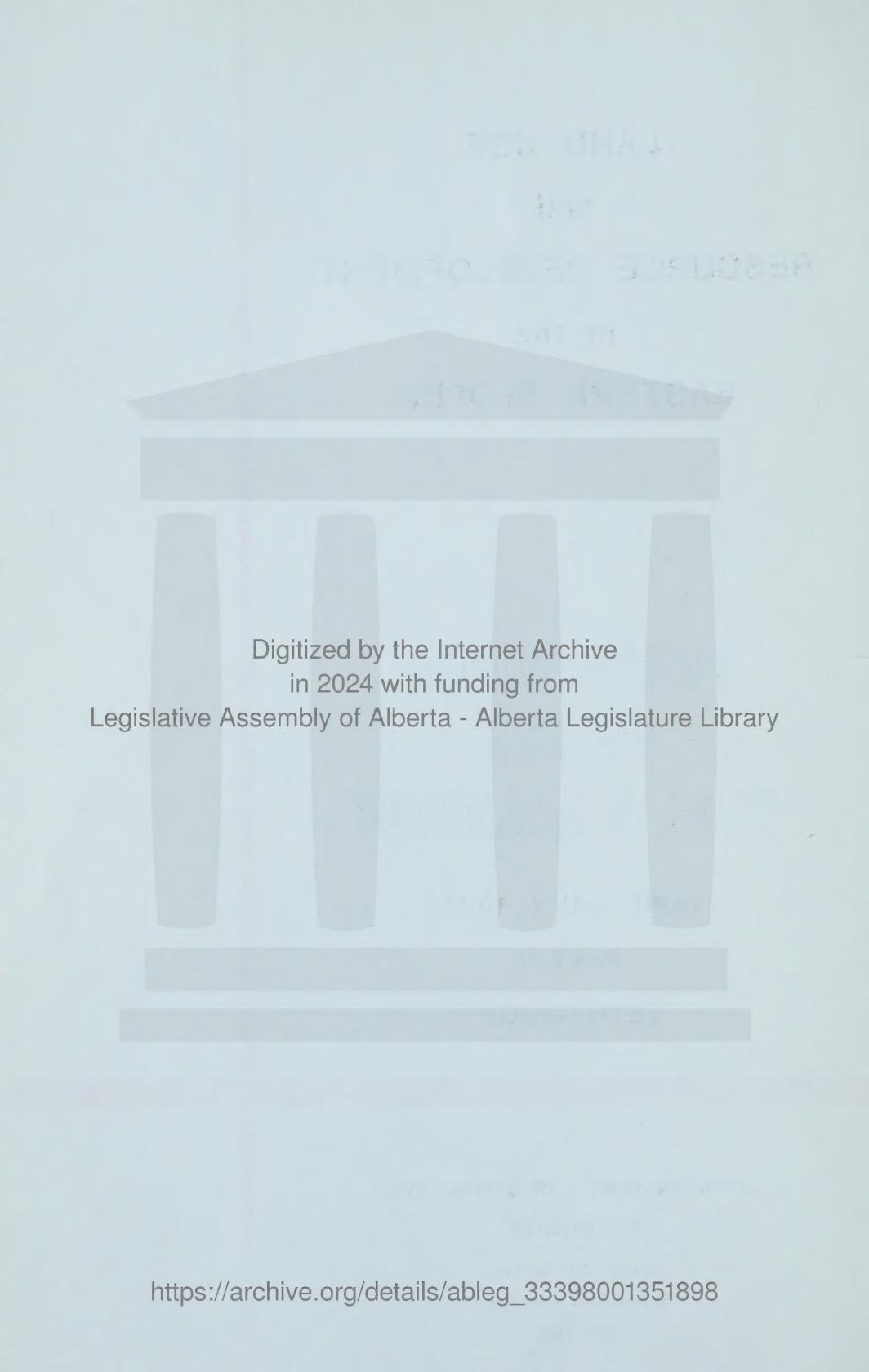
LETHBRIDGE

ENVIRONMENT CONSERVATION

AUTHORITY

9912-107 Street  
Edmonton, Alberta  
T5K 1G5



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OLDMAN RIVER BASIN

COLEMAN, JUNE 11 & 12	-	PART I
LETHBRIDGE, JUNE 13 & 14	-	PART II

BOW RIVER BASIN

CALGARY, JUNE 18	-	PART III - A
CALGARY, JUNE 19 & 20	-	PART III - B
CANMORE, JUNE 22 & 23	-	PART IV

NORTH SASKATCHEWAN RIVER BASIN

ROCKY MOUNTAIN HOUSE, JUNE 26	-	PART V
RED DEER, JUNE 28 & 29	-	PART VI

ATHABASCA RIVER BASIN

HINTON, JULY 3	-	PART VII
EDMONTON, JULY 5, 6 & 7	-	PART VIII

SMOKY RIVER BASIN

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SEPTEMBER, 1973

## FOR E W O R D

Geographically, Alberta is a land of diversity. From the dry irrigated croplands of the south through the lush farming and ranching country of central Alberta to the sparsely settled wildlands of the north the landscape presents a constantly changing panorama.

Nowhere, however, is diversity more apparent than in the approach to the Rockies. There indeed, as one enters the region of the Eastern Slopes, Alberta takes on its most dramatic change.

As though to prepare one in advance for the enormity of the Rocky Mountains, the landscape assumes a rolling gait as the farmlands and ranchlands of the plains give way to the forested areas of the foothills.

In this area, which has come to be known as the Eastern Slopes, lands have been mostly protected and preserved for public ownership in the name of the Crown, and important national and provincial parks are located here.

To many Albertans, the Eastern Slopes represent an area of, as yet, relatively undisturbed forests which should be preserved in their natural state for posterity.

To others, the area represents a bountiful supply of valuable resources which should be developed to the benefit of Albertans.

Some others view the Eastern Slopes in the light of combined benefits and hope that they can be made to yield their riches without prejudice to the natural state.

Of the treasures that reside in the Eastern Slopes, recreation ranks high in the minds of many people and indeed, recreation in its many forms is now enjoyed in the Eastern Slopes in both winter and summer by many thousands of people each year.

In addition, land in the Eastern Slopes is now used or is proposed for use for such purposes as tourism, urban development, forest utilization, mineral resource industries, surface mining, oil and gas development, underground coal mining, agriculture, watershed conservation, domestic water supplies, hydroelectric power developments, wildlife and fishing management, wilderness and natural areas, institutional use by charitable, religious and other groups, archaeological sites, research, Indian reservations and national and provincial parks.

These various present and potential uses of resources within the area may either have no effect on each other, complement each other, conflict with each other, or relate to each other in sequential ways.

In order to publicly explore these interests and discover the concerns they generate, the Environment Conservation Authority was requested on behalf of the Government of Alberta to hold comprehensive and wide-ranging hearings on Land Use and Resource Development in the Eastern Slopes.

It was the objective of the hearings to enquire into all potential uses and to formulate ways in which optimum benefits and environment conservation could be achieved now and for the future from the various resources of the Eastern Slopes.

A further objective was to consider and evaluate the views of the public on specific recreational and tourist development proposals for the area. Finally, the Authority would lay the views presented to it, along with its own recommendations thereon, before the Government of Alberta.

For the purpose of the public hearings, the Eastern Slopes were divided into five separate districts corresponding to the five major watershed basins and outlined by the statutory boundaries of the four Regional Planning Areas and Improvement District No. 14.

The eastern boundary of the area was taken as the eastern edge of the foothills, prescribed by an arc lying to the west of the cities of Lethbridge, Calgary, Red Deer, Edmonton and Grande Prairie.

As background to the hearings, the Environment Conservation Authority released a series of 12 Information Bulletins; five of these pertained specifically to the separate watershed basins and were prepared by the individual regional planning commissions.

Hearings were held (during June and July of 1973) in each of the watershed basins as well as in the five major cities.

The present publication constitutes the Proceedings of the Public Hearings on Land Use and Resource Development in the Eastern Slopes. A separate volume has been allocated for each location, and each volume contains a complete transcript of all presentations heard at that location as well as the discussions which followed.

In addition, a final volume contains all written submissions which were received prior to and following the hearings, but which were not presented verbally at the hearings, along with an index to all volumes.

## ACKNOWLEDGEMENTS

The contribution that a public hearing can make to the advancement of any subject depends very largely on the submissions, briefs and presentations made to it by members of the public.

The Environment Conservation Authority is particularly appreciative of the efforts of the very large number of individuals, groups and associations that contributed both orally and in writing to its series of hearings on Land Use and Resource Development in the Eastern Slopes.

For those who prepare submissions it is most desirable that they have ready access to relevant information on the subject. This involves not only compiling and presenting the information in an acceptable form, but also distributing it widely to the interested public.

In this most important aspect of the work leading up to the public hearings the Authority received considerable assistance from the Regional Planning Commissions of the individual watershed basins covered by the hearings.

Not only did the officers and staffs of these commissions prepare comprehensive and highly informative position statements on behalf of the Authority for each basin, but at each location a senior official of the commission presented the position statement to the Authority at the beginning of the hearing, and most ably responded to the detailed questioning which followed.

For these invaluable services the Authority expresses its sincere thanks to the officials and staff of the Oldman River, Calgary, Red Deer, and Peace River Regional Planning Commissions and Improvement District No. 14 of the Provincial Planning Branch.

Further very important information of value to those preparing briefs was produced by a special *ad hoc* committee of the Authority's Science Advisory Committee. For the very able discussions and recommendations on land use conflicts which they presented in Information Bulletin No. 12 the Authority wishes to compliment and thank the members of this committee.

In locating, setting up and operating its extensive chain of information centres throughout the province the efforts of the Authority would have been frustrated without the willing co-operation and expert assistance of a number of people and organizations.

To the Universities of Lethbridge, Calgary and Alberta, the Regional Planning Commissions of Oldman River, Calgary, Red Deer and Peace River, the Community Colleges of Lethbridge, Red Deer and Peace River, and the public libraries of Blairmore, Coleman, Calgary, Canmore, Drumheller, Edmonton, Edson, Grande Cache, Grande Prairie, Hinton, Lethbridge, Lloydminster, Peace River, Red Deer, Rocky Mountain House, Wetaskiwin and Whitecourt, and their staff, the Authority expresses its sincere thanks.

The Authority also gratefully acknowledges the efforts of the Conservation and Utilization Committee of the Government of Alberta for their fine pre-hearing report, "A Choice of Land Use Alternatives", and the Department of Lands and Forests for their assistance in processing the many commercial proposals for tourism and recreational projects as well as for providing a competent addition to the Authority's observer staff for the hearings.

Finally, to its own staff, whose unfailing support and tireless efforts sustained the many extended sessions of the hearings, the Authority takes pride in expressing its gratitude.

W.R. TROST,  
Chairman,  
Environment Conservation Authority.

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**LAND USE  
and  
RESOURCE DEVELOPMENT  
in the  
EASTERN SLOPES**

**INTRODUCTION**

**ENVIRONMENT CONSERVATION  
AUTHORITY**

**ALBERTA**

## INTRODUCTION

The Environment Conservation Authority was requested by the Honourable W.J. Yurko, Minister of the Environment, to hold public hearings on land use and resource development in Alberta's eastern slopes of the Rocky Mountains. These hearings took place during June and July, 1973 in Coleman, Lethbridge, Calgary, Canmore, Rocky Mountain House, Red Deer, Hinton, Edmonton, Grande Cache and Grande Prairie.

### PREPARATION FOR THE HEARINGS

In order to place background information before the public, a series of information bulletins was published. Five of these were prepared by the relevant regional planning commissions and the Provincial Planning Board, and dealt specifically with their sections of the eastern slopes. The additional bulletins were produced by the Authority or by various involved agencies.

A very extensive mailing of this material was made to interested groups, organizations and individuals. As well, a system of information centres was established in each of the hearing locations as well as in other relevant locations. These centres were supplied with sets of background publications, as well as a reading list and bibliography on the hearing subject.

Direct public contact was developed and maintained through Authority member visits throughout the study area and through continual contact with the various sections of the media.

Advertising for the hearings took various forms. Newspapers contained general notices inviting participation, specific advertisements advising of local times and locations, and "legal" notices listing what commercial recreational proposals would be discussed at specific hearing locations. Radio and television were utilized in much the same manner to inform and invite public participation.

THE PUBLIC HEARINGS

The dates and places of the hearings were as follows:

Coleman	June 11 and 12
Lethbridge	June 13 and 14
Calgary	June 18, 19 and 20
Canmore	June 22 and 23
Rocky Mountain House	June 26
Red Deer	June 28 and 29
Hinton	July 3
Edmonton	July 5, 6 and 7
Grande Cache	July 10
Grande Prairie	July 12

At each of the hearings the session was opened with introductory remarks by the Authority. The regional planning commission, or the Provincial Planning Branch in the instance of Improvement District No. 14, was then called upon to give background to the concerns and problems of the area involved.

The Authority then heard briefs or summaries presented by concerned individuals and groups. The panel, consisting of: Dr. W.R. Trost, Chairman; P.J. Dowling, Vice-Chairman; and J.J. Kinisky, Member; questioned those persons submitting concerns in order to fully elucidate the concepts and opinions put forward by them.

Major proposals for development in the study area were presented following the general submissions. Here the opportunity was given for the developers to highlight their projects. They were then questioned by the Authority panel, then by interested persons in attendance at the hearing.

The last segment of the hearing at each location was given to open discussion, during which a free exchange of ideas and concerns took place.

A total of 308 submissions was made as well as 14 commercial recreational proposals.



LAND USE  
and  
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in the  
EASTERN SLOPES

LETHBRIDGE  
JUNE 13

ENVIRONMENT CONSERVATION  
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E. Nicholson summarized the Oldman Regional Planning Commission's Position Paper presented formally in Coleman.

GREAT DIVIDE TRAIL SYSTEM - PROVINCIAL LINKAGE

BETWEEN BANFF and WATERTON NATIONAL PARKS

A

PROPOSAL

to

ENVIRONMENT CONSERVATION AUTHORITY

EAST SLOPE HEARINGS

at

Lethbridge, June 13, 1973

Submitted by:

Brian Kregosky, Graduate Student  
Department of Geography  
University of Calgary

GREAT DIVIDE TRAIL SYSTEM - PROVINCIAL LINKAGE  
BETWEEN BANFF and WATERTON NATIONAL PARKS

I. Objectives of Proposal

1. To stimulate long-term planning within those provincial agencies responsible for the future of outdoor recreation in the forest reserves.
2. To demonstrate the need for, and value of, the extension of the Great Divide Trail through the provincial forests between Banff and Waterton National Parks.
3. To briefly discuss the capability of these provincial lands for such a long distance wildland trail.

II. Purpose of the Provincial Trail

1. To complement the Great Divide Trail of the mountain national parks by completion of the southern provincial section thereby providing a continuous 560 mile backcountry trail through the backbone of the Rocky Mountains.
2. To function as a connector for the existing national parks trail section with the 3,000 mile Continental Divide Trail in the United States.
3. To serve as impetus to, and as a core trail for, the establishment of backcountry trail systems within the provincial forest reserves for the purpose of providing opportunities for quality backcountry recreation.
4. To alleviate recreational pressures within the mountain national parks and serve the recreational demand which will be generated within the forest reserves in future.
5. To require the reservation of wildland corridors for dispersed recreations possible with such a trail and thus receive equal weight as the resource uses currently allowed under "multiple

use" management. In essence, a demonstration of the cognizance by government of outdoor recreation values and best uses in the forest reserves--a notable deficiency until now.

### III. The Concept and Background

The concept of a long distance trail system is not new, having been successfully demonstrated over the years by Ontario's 400 mile Bruce Trail and the 2,000 mile Appalachian Trail in the United States. The public benefits and value of such trails, be they of wilderness character or not, is demonstrated by present use and proposed implementation of future long distance trails. The concept has been embodied by the recent National Scenic Trails System Act in the United States which designated 14 long distance routes for study and possible inclusion within the System. One of these proposed trails is the Continental Divide Trail which would run from the Mexican border in New Mexico along the Rocky Mountains to the Canadian border at Waterton National Park, a distance of some 3,000 miles.

Proposals in support of a long distance trail traversing the mountain parks in Canada have come from organizations and individuals since 1966. The idea was actively advocated by J. Thorsell who did preliminary studies on its routing in 1967 and 1968 while working for the National Parks Branch. In 1970, the Minister of Indian Affairs and Northern Development officially announced the Federal Government's intent to create the Great Divide Trail within Banff, Kootenay, Yoho and Jasper Parks by connecting existing trails. The desirable objective of linking this trail with the U.S. Continental Divide Trail was also mentioned at that time. Specific research has been carried out for the National Parks Branch on the parks sections during 1971 and 1972.

The present status of the Great Divide Trail in the parks is one of near completion--about 85% of the 400 mile route is functional with only two major gaps barring completion and official designation. It has been receiving in-crossing use over the years, campsites have thus

had to be specified and some sort of guidebook can be expected in future. The anticipated completion date is 1975.

The parks section traverses provincial forest reserves which abut park boundaries--Mt. Assiniboine Provincial Park, Blueberry River headwaters and the White Goat Wilderness--a total of approximately 50 miles. Trails, of varying standard and condition, exist in these areas and thus the only major planning and implementation requirements, if such a continual trail system is the end objective, are involved with the relatively trail-less and recreationally unmanaged forest reserves section south of Banff Park.

The Director of the National and Historic Parks Branch in recent correspondence, states that "the C.D.T. route between Banff and Waterton National Parks is a matter for the Provincial Government" and believes that such an extension is advisable and beneficial. Thus, the Federal position has not changed since the Cretien announcement and their support can be expected, but it is up to the Provincial Government(s) to now become actively involved.

#### IV. The Proposal

##### 1. Wood

As previously stated, and as is obvious to the knowledgeable observer, the mountain national parks, which have borne the main responsibility of providing for extensive types of outdoor recreation over the years, are facing increasing pressures and may eventually face overuse. The forest reserves' lack of facilities, planning, and zoning for backcountry recreation has not helped alleviate the situation. Such provisions are currently needed, not only as a safety value for the benefit of the mountain parks, but to provide opportunities for an increasingly vocal public and to handle the future pressures that will be generated by improved forestry road systems (i.e. Trunk Road in Alberta, Elk Valley

Road over Elk Pass in B.C.). The evident strategy of the present Alberta Government in using the amenities of the forest reserves in tourist promotions will further decrease use volumes. Recently announced development proposals for the East Slope Land Use Hearings testify to future recreational use. The basic need, therefore, is prior planning for future use before such use dictates planning and possible poor use of the recreational resources. Such a trail system, as proposed, can be an extremely valuable tool for administration as well as having obvious value to the backcountry user--resident or tourist alike.

## 2. Value

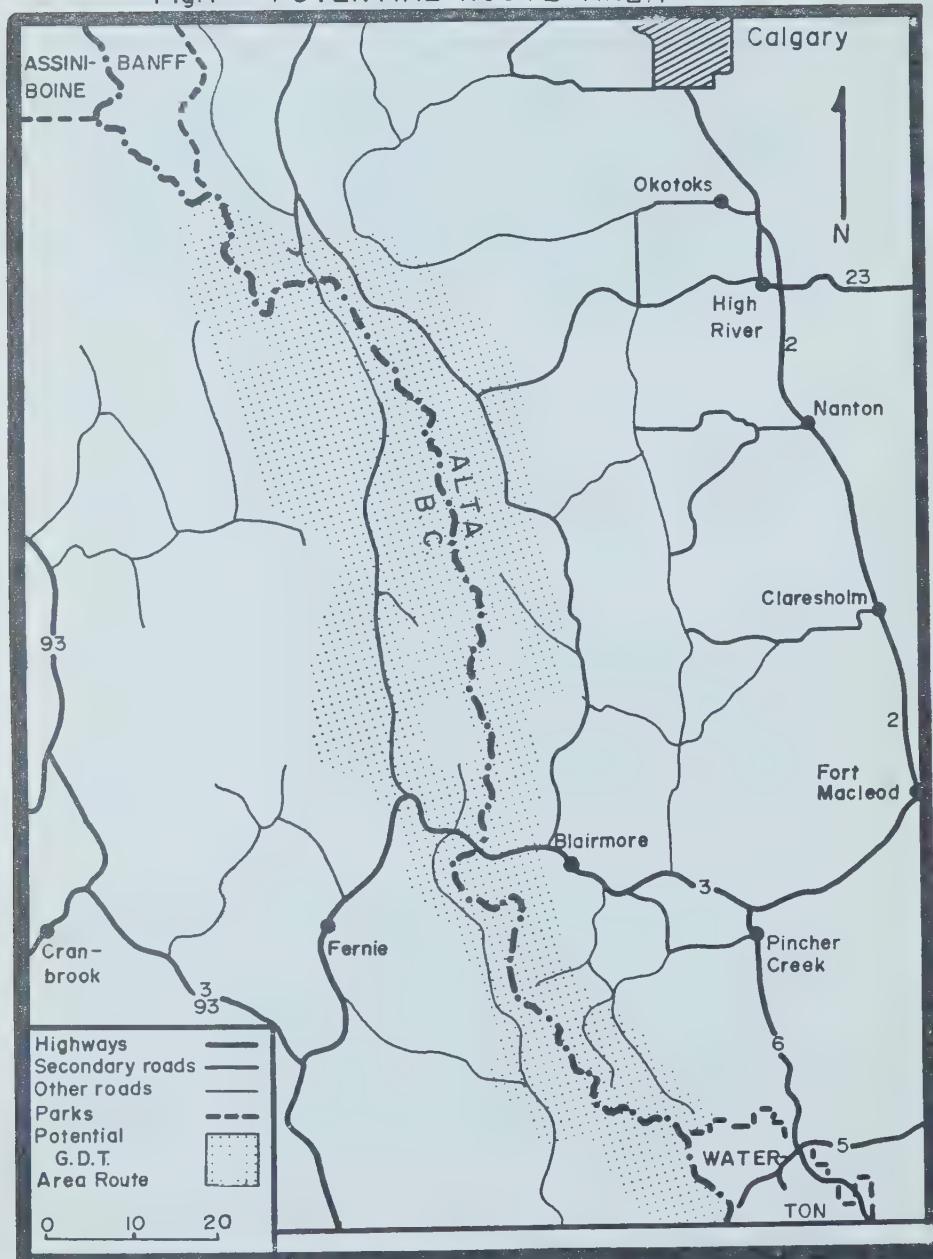
This provincial long distance trail would offer recreation opportunities of high quality throughout a 150 mile core area. Development of facility-oriented activities would occur at road crossings and other access points and thus a range of people would benefit, even those who would not use such a trail. Of major importance is the function of the Great Divide Trail as a core trail on which to base and implement a comprehensive trails system within the forest reserves. Thus, a variety of lateral access trails could join the G.D.T. to existing roads at intervals along the entire 150 miles route. The circuit hiking (and camping) possibilities afforded by a 'system approach' such as this are enormous.

Another value is the basic recognition of the place of wild-land primitive travel and related activities in the 'multiple use' scheme. The obvious best use of many Rocky Mountain wild-lands is recreation. A trail routing which traverses zones of no-land use conflicts could, or rather should, have its wilderness or wildland values protected by zoning--in a sense a 'recreational travel corridor' concept, reserved from other conflicting uses. Certain sections demonstrating high quality and

amenity could be further protected for recreational use by provincial park or wilderness designations.

This writer recognizes a further value of the proposed trail in that preliminary study and implementation would require inter-agency co-operation and co-ordination, between both Provincial Governments as well as with Federal Agencies. Benefits are not confined to planning for the proposed trail but rather the importance of systems planning on a regional basis by all levels of government.

Fig. 1 . POTENTIAL ROUTE AREA



### 3. Description

The following is put forward as a basis for future action. An optimized G.D.T. routing would only result from in-depth study and planning, beyond the scope of this proposal.

#### a. Possible routings

The landscape is the most important parameter of any G.D.T. routing. Presently, only a few unmaintained trails exist within this area. Knowledge of the region suggests more than one routing, alternatives and their quality being dependent upon access, road proximity, and conflicts with present or future resource extraction, as well as topography. For this reason, further in-depth study would be required and, therefore, no attempt is made at route finalization. The potential route area east and west of the Continental Divide is above on Figure I. From within that area, and in attempting to satisfy criteria for such a long distance trail, this writer has developed a separate routing within each province (Figure 2 and Figure 3). There is, as noted, a great potential for, or probability of, a route that would wind back and forth along the divide through both provinces. Figure 3 indicates an Alberta routing which is slightly different from that contained in Figure 2.

#### b. Distance

Specific on-land distance for the trail would be dependent on finalized routing; a figure of 150 miles is considered minimum. Maximum lateral distance from the divide should not exceed 200 miles.

#### c. Physiography and Topography

The proposed trail would traverse subalpine area as well as alpine areas above timberline. The existence of many

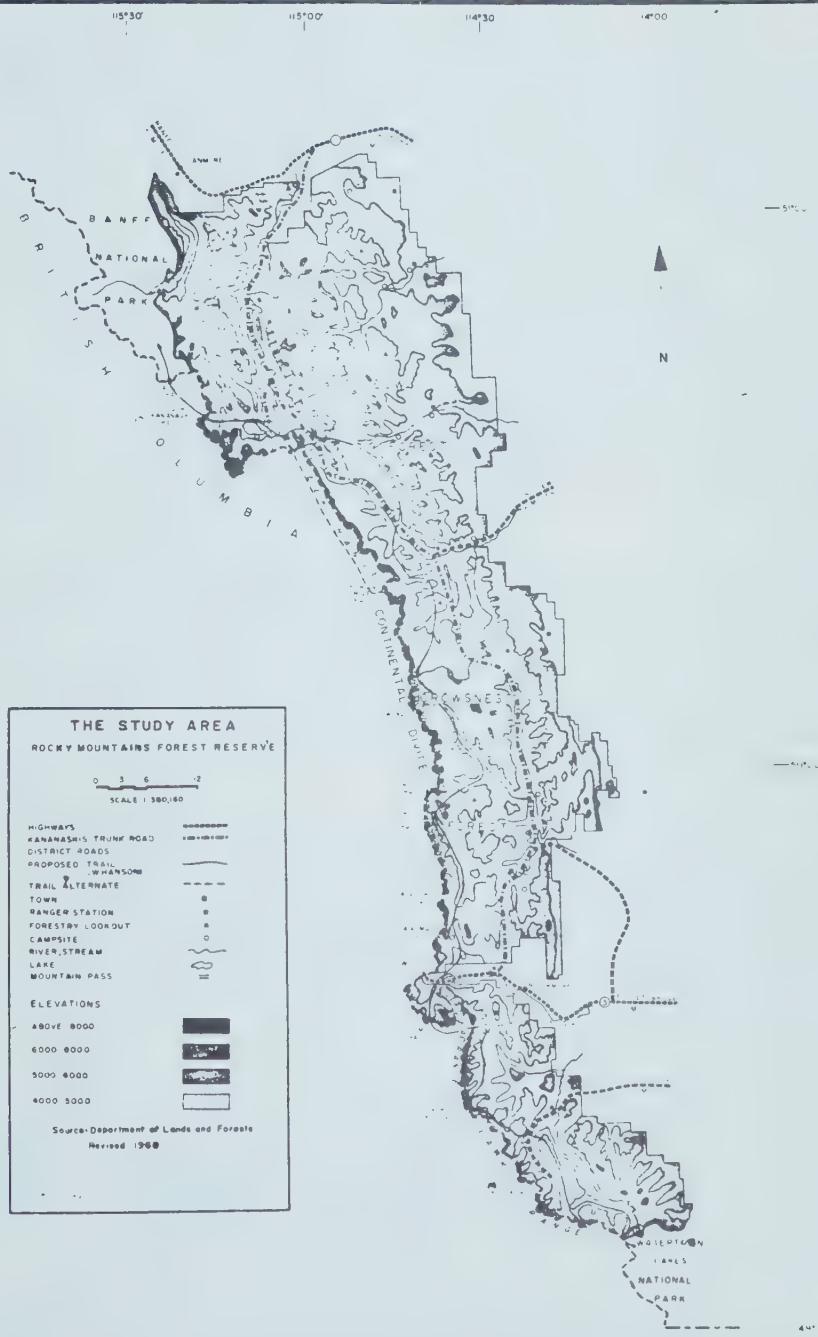
potential high-level passes and ridges, especially along the continental divide between the Elk Valley and Kananskis Trunk Roads, indicates extensive viewing. Due to unavoidable east-west trending valley systems characteristic of the region (see Figure 3) the route would be more rugged than the National Parks section, with more elevational differences. Minimum elevation is 4800 feet in the Crowsnest Pass while numerous passes exceed 7500 feet. The topography traversed by an Alberta route is shown in Figure 3.

d. Access

A proposed route would cross the #3 highway and most probably cross either the Trunk Road or Elk Valley Road. Minor forestry roads may or may not be touched, depending on routing. Presently most roads within a possible study area can be seen to follow a similar north-south orientation and thus offer excellent lateral trails access to the G.D.T. and circuit routes would be excellent. Indeed, the number and location of forestry roads may pose problems for route selection if it is to retain a wilderness character. Secondary roads now exist that would provide direct access for nearby centres of population both in Alberta and British Columbia.

e. Other

A G.D.T. route could make use of historical areas such as Palliser and Kootenay Passes. Some old Indian trails still exist within the study area and their use would have historical meaning. If routing must, of necessity, pass by extractive developments such as timber or coal (Elk Valley, Pasque Creek, Dutch and Racehorse Creeks) the man and the land relationship will be of educational value, and, in contrast, will probably intensify the user's wilderness experience in the wild, untouched portions.



## THE STUDY AREA

## ROCKY MOUNTAINS FOREST RESERVE

0 3 6 12  
SCALE 1:380,160

HIGHWAYS  
 KANAWHA'S TRUNK ROAD  
 DISTRICT ROADS  
 PROPOSED TRAIL  
 WHAMSONG  
 TRAIL ALTERNATE  
 TOWN  
 RANGER STATION  
 FORESTRY LOOKOUT  
 CAMP SITE  
 RIVER, STREAM  
 LAKE  
 MOUNTAIN PASS

卷之三

EL E V A T I O N S  
A B O V E 8 0 0 0  
6 0 0 0 6 0 0 0  
5 0 0 0 5 0 0 0  
4 0 0 0 4 0 0 0

Source: Department of Lands and Forestry  
Revised 1968

#### 4. Logistics

Planning, route implementation, and management of the southern section of the Great Divide Trail will be the responsibility of a Provincial Government (as is the initial decision). Input from the Federal agency experienced in backcountry recreation can be expected. Conservation and nature organizations are anticipated to favor and assist such a project.

This writer would like to emphasize that initial budgeting (and thus personnel) present few problems. In addition to financing from the provincial department(s) directly responsible, other sources of funding such as the Alberta Environment's Environment Research Trust Fund and the National Parks Branch Byways and Special Places Program should be utilized.

#### V. Conclusion

This proposal stresses the future need for, and value of, the continuation of the Great Divide Trail between Banff and Waterton National Parks. It is considered not only a viable project but a necessary one, especially in view of a 'systems approach' to planning, and managing the provincial forests for outdoor recreation. This trail system is seen, by this writer, to be a 'best use' for many areas which it would traverse.

It is essential that the responsible government agencies recognize the present and future potential of such a long distance trail system and therefore take immediate steps to input the same into a 'forest reserve master plan', if indeed such long-range planning exists. Failure to do so will amount to short-changing both the land and the recreational public in future years.

Figure 2

## POTENTIAL ROUTING

Cumulative Miles	Topographic Area	Alberta			British Columbia				
		Passes	Roads	Potential Connectors	Cumulative Miles	Topographic Area	Passes	Roads	Potential Connectors
7	(Palliser River in B.C.)				14	Palliser River			2
15	Upper Kananaskis River	1		2	23	Jaffre Creek	1		
25	Upper Kananaskis Lake		2		40	White River	2		
28	Elbow Lake	1			48	Forsyth Creek	1		
36	Misty Range	3			70	Fording River Basin	1		3
42	Mist Creek		1		78	Line Creek		1	
64	Elk Range				84	Line Tributary	1		1
70	Cataract-Lost Creeks	1		3	100	Alexander Creek	2		1
84	Upper Oldman River	1		3	118	Flathead Range	2		3
84	High Rock Range	1	2	3	140	Clarke Range	2		5
110	Flathead Range	2	1	3	152	Kishenina-Akamina Creek	2	1	2
128					158	Waterton International Boundary	1	1	
152	Clarke Range	6	1	5					
168	Waterton Parks International Boundary	3	1	1					
168					19	8	20	TOTALS	158
									11 7 18
									Maximum mileage west of divide = 15 miles

## NOTE:

1. Examples of separate Alberta and British Columbia routes given.
2. Closes suitable routes paralleling continental divide uses. Other B.C., Alberta or B.C.-Alberta routes possible (refer to Figure 3).
3. Inter-provincial Great Divide Trail, route possible and advisable for minimization of route quality. Note number of possible connectors (passes) which are all situated along the continental divide.

VI. Background Reference

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c.c.: Mr. A. Warrack, Minister  
 Department of Lands and Forests  
 Legislative Building  
 Edmonton, Alberta

Mr. R.A. Williams, Minister  
 Department of Recreation and Conservation  
 Legislative Building,  
 Victoria, B.C.

Mr. J.I. Nicol, Director  
 National and Historic Parks Branch  
 Ottawa, Ont.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

What sort of standards are used on these trails? How wide are they and what sort of surface do they have?

MR. KREGOSKY:

I don't want to get into considerations such as those because I'm trying to sell the idea first. The national parks have trail standards available from established trails such as the Appalachian Trail System. It all depends on what type of use is expected. You usually have a wider tread width and different gradients if you are catering to horse use rather than hiker use. I'm not specifying this trail just for a foot traveller. It can be used by horses to maximize the use potential. So you have various standards, but the gradients are usually kept down to a ten per cent grade.

Possibly the most important aspect to site location of trails is the durability of the area traversed. This is quite evident from my research on the national parks trails in terms of soils and vegetation. Aesthetics are very important. Convenience to the hiker is very important, but it is only secondary to the actual resource. You want to have an enduring trail as much as possible, so the standards should possibly be adapted in some sense to the conditions of the actual land itself.

MR. KINISKY:

Could you estimate a rough cost per mile on the minimum kind of trail that would be at least a good start on this?

MR. KREGOSKY:

If you are going to cater to me it won't cost you too much because I'm used to bushwhacking. If you are going to cater to a 70 year old pensioner - and I don't see why not - then you are going to need more of a gradient trail and a more planned or completely managed trail which also includes maintenance.

To revert to your question, numerous figures are given for trails varying from \$500 to \$2,000 per mile of newly constructed trail. It all depends. Costs could be minimized by use of other resources such as interested groups. A demonstration of this occurred a few years ago when a hiking association, the Rocky Mountain Ramblers, got permission to put their own trail into the Bow Forest. They did a lot of the work themselves. As a matter of fact, the Great Divide Trail concept is supported by the Alberta Wilderness Association, by most of the conservation clubs, of course, and also by the National and Provincial Parks Association which had quite a bit of influence in pushing the concept through to its establishment now by federal government. Perhaps even industry could have a hand in providing a little assistance if a trail is to pass through some of its areas.

MR. KINISKY:

How do you stop people from getting lost up there? Are the trails marked well enough? Are there signs telling you where to go when hikers get to a branch or a section that's added or connected to a trail?

MR. KREGOSKY:

In the past the sign situation has not been satisfactory; it typified how recreational resources and forest reserves were previously managed. In other words, no trail signs, blazing all over the place from every guy and his dog - confusing even me.

There are usually signs now. For instance, in the national parks there is a specially created logo for the Great Divide Trail which indicates directions. The trails are quite well established there. With basic maps it's very hard to get lost. Of course, I expect the national parks or some private individual will eventually have a trail guide set up on this Great Divide trail system within the national parks.

MR. DOWLING:

This is a 150 to 160 mile trail, and I know that the route has not been chosen, but obviously if somebody is going to cover the entire length of the trail in a single trip, he's going to have some form of overnight shelter. What do you envisage in that respect?

MR. KREGOSKY:

A tent.

MR. DOWLING:

This is going to be rather difficult for the 70 year old pensioner.

MR. KREGOSKY:

No, tents are pretty light these days. I think we'd get into too much detail if we started talking about things like that. Originally shelters were proposed at eight mile intervals along that entire length of the national parks but the idea has since been dropped because they would create and generate problems of their own, such as litter, people staying all summer in certain shelters, et cetera. At present it would seem shelters are not the answer for such a trail system.

Furthermore, I hope to get the point across that this trail system would also provide various circuit trails for one-day, two-day and weekend use. It would only be the very few people who do the entire 150 mile distance in one go who would need shelters. Therefore, a lot of this, which would actually cost money if you were to build shelters even of a primitive type, isn't necessary, especially in the early stages of such a system. It could be incorporated as use and demand factors were better known.

MR. DOWLING:

Would you establish camping places along the trail for those people who were travelling continuously?

MR. KREGOSKY:

Eventually yes, if the use becomes moderate or heavy, just to keep down deterioration of certain areas and keep random campsite locations to a minimum. That's generally accepted these days.

MR. DOWLING:

Are you also suggesting that horses be used along the trail?

MR. KREGOSKY:

I'm just suggesting the trail. I didn't want to specify only horse or only hiker. All I really said was everything except vehicular activity, therefore, I'm in a sense saying hiking and horse. There is not that much horse activity these days, and if you don't have them in certain areas they are going to be used in other areas anyway, which means establishment of other trails. As I say, a lot of seismic lines aren't specially suitable for horses. So although horses do affect the environment and the trail location more, it depends on the actual location of the trail. For instance, in the national parks, some areas because they are a bit too fragile - the higher alpine areas and poorly drained areas - have been closed to horses. So horses can be taken care of in a plan with zoning and with limitation regulations on use. That's pretty far into it, though.

MR. DOWLING:

Who would construct the trail and who do you think should be paying for it? Do you think it should come from the public purse?

MR. KREGOSKY:

I think it is entirely the responsibility of the provincial government. There will be the possibility of money from the byways program in the national parks. It could be a coordinated thing between B.C. and Alberta.

I know there are no such things as real trail maintenance crews and recreational managers in the forest reserves at present nor are things set up for them. This is one thing that's going to have to happen and it will. Therefore, I assume recreation, whether in the form of trails or destination locations, is going to be important in the future of the reserves.

One thing that the government is just going to have to generate is new civil service positions. It is a provincial responsibility but they should obtain as much assistance as they can from private individuals and conservation organizations.

MR. DOWLING:

Would you give this trail a recreational priority which might possibly supersede any other possible land use along this right of way? Would you recommend, for instance, that strip mining be put aside, even though it might be a valuable asset to the community to have the mine operating? Would you recommend that that mine be not operated purely because it was an excellent recreational use?

MR. KREGOSKY:

I'd like to say so, but I won't go that far because it all depends on the route and on alternate routes that might be available for such a trail. The strip mining operations that are or will be going in, say, the Pass Creek area will lie just to the east of a possible Alberta location. That may be one area where the hiker might see all the ravages and just seeing it will, perhaps, give him a good experience. In other words, dispersed-use recreation is not going to override a strip mine development because of the dollars-and-cents considerations which are all too evident in our society today. All

I'm saying is that there are corridors and areas that have low potential for coal or forestry but are probably aesthetically good for recreational corridors.

DR. TROST:

Do you anticipate that the trails will be mostly on ridges but won't be all in the Great Divide?

MR. KREGOSKY:

It depends on the topography. It varies in B.C. and it varies in Alberta. There are a lot of east-west trending valleys which would mean the trail would probably be more rugged than traversing a north-south route. So there would be a lot of high country travel which is probably the most pleasing as well as some valley travel. It remains for decisions to be made by looking at the capability of the land for trails and the actual avoidance of strip mine operations or lumbering operations if possible.

DR. TROST:

Do you expect then in going from valley to ridge that you may create possibilities of erosion that you may have to be careful about?

MR. KREGOSKY:

Not anywhere near the erosion caused by trail bikes or any other type of use. In other words, with the trail standards that Mr. Kinisky had asked about before there is no problem with erosion if a trail is properly planned with proper switchbacks, proper gradients and proper water run-off.

DR. TROST:

Do you think it possible that the people who want to use this trail would propose that some of the cost might be handled by a toll system?

MR. KREGOSKY:

No. I think it is too much a facility that will be used by all kinds of public, both residents and others. I just don't think we are at the stage where trails are so popular that they will necessitate a toll system simply because there are actually other trails to use. If I had to pay for a trail, I would simply go to another area and use the trail there, just as I have avoided trails in Banff that are now overcrowded and gone into different areas. So I don't envisage that.

I expect, though, that there are possibilities of a toll system on some of the major scenic recreational roads in the forest reserves, with those tolls and fees being directly allocated to resource planning, management and administration in that section. I can see this as a possibility, but I can't see getting it as a direct dollar thing from the hiker. The multiplier effect works anyway, especially with the tourists coming into the area. They are going to be spending a few dollars, even though they are pretty cheap backpackers.

DR. TROST:

Is this being discussed on the B.C. side?

MR. KREGOSKY:

I haven't been in touch with the minister and I don't know what the status of it is there at all. I don't know what the exact correspondence has been between Ottawa and Dr. Warrack, if any, but I know there will be future correspondence. The preference of Ottawa, if I may hazard a guess, is leaning toward an Alberta route. As I say, that might be a stimulus for some future agency action for such a proposal. But as for the B.C. side, I don't know. However, both provinces' forest reserves offer route locations at present.

DR. TROST:

Have you any documentation or letters that indicate other groups or individuals are supporting your proposal?

MR. KREGOSKY:

Yes, it's mentioned in the Alberta Wilderness Association proposal, the Elbow Sheep Wilderness proposal. I have a letter from the National Parks Branch supporting it. I have naturally not gone to groups to generate support for such a proposal. I am not a politician. I'm not trying to do a hard sell. I'm just trying to give a concept to the government. I don't think there must always be politicking and pressure by the conservationists in order to get something done.

I think the government should, especially after these hearings, wake up and start generating a few ideas of its own. I'm giving you an idea. If it proves good the government should start doing something about it and only expect assistance from others after that.

DR. TROST:

Would you also give us some copy, if you have it, of these elements of support you have mentioned?

MR. KREGOSKY:

I can forward that. I do not have them included in the brief, although I do have a reference and a bibliography attached to my brief as you can see.

DR. TROST:

Have you had any indication that there are people or interests opposed to your proposal?

MR. KREGOSKY:

No, because as I tried to state, the route optimization, both for the recreationist and also for the resource person, should be done well enough so that there shouldn't be too many conflicts. There should not be too much negative feedback from the coal operators and perhaps from a few lumber interests unless possibly it's going to interfere with some of their cut areas. But in a sense that's the idea of planning before use or before the need arises, because you can create a better optimal route without conflicts. I don't expect too much negative feedback although it is in provincial lands. There is not too much feedback in the national parks because it is all single-use recreational land there.



BRIEF FOR  
ENVIRONMENT CONSERVATION AUTHORITY  
HEARINGS ON  
LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

Presented by:

Larry R. Beres  
Southern Alberta Recre-  
ational Council

We wish to commend the Government of Alberta for holding these public hearings through the auspices of the Environment Conservation Authority. It is our view that all major developments and decisions such as those involved in the Eastern Slopes, which so dramatically affect the citizens of Alberta, should not be made until those citizens have been heard. We would emphasize, however, that as we see it, such hearings are only phase one of a comprehensive program of public hearings. It is our view that these hearings, taken together with Government data, should provide sufficient information for development of Proposed land use plans. AT THAT POINT, WE WOULD STRONGLY URGE THE GOVERNMENT TO APPROACH THE PUBLIC AGAIN SINCE IT IS MUCH EASIER FOR THE PUBLIC TO MAKE INPUT WHEN TENTATIVE PLANS ARE BEING CONSIDERED THAN WHEN INITIAL IDEAS ARE BEING SOLICITED.

At the same time we recognize that public hearings often result in numerous special interest groups taking the opportunity to put forward proposals which although beneficial to their limited interests neglect broader, more integrated concerns.

Recognizing this problem and committed to planning on a "systems" basis, the Southern Alberta Recreation Council hereby presents the following views as objectively as possible. We realize full well, that while we primarily reflect concerns of those interested in personal fulfillment through leisure, man does not yet live by leisure alone nor is he or the environment he lives in subject to being divided into separate unrelated parts.

Our Council has analyzed the area under investigation and are in general agreement with the basic objectives set out at the time of establishment of the Eastern Rockies Conservation Board. WE RECOGNIZE THAT THE PRIMARY OR DOMINANT USES OF THE EASTERN SLOPES MUST BE THOSE RELATED TO THE PRODUCTION ON WATER FOR ALBERTA RESIDENTS AND THOSE TO THE EAST OF US.

At the same time, however, we would suggest that the Eastern Slopes, in certain cases, are capable of much more than water production. WE ALSO RECOGNIZE FULL-WELL THAT SINGLE PURPOSE USE IS NOT AN EFFICIENT USE OF RESOURCES IF THE RESOURCE HAS THE CAPABILITY OF PROVIDING ADDITIONAL BENEFIT TO MANKIND.

IN VIEW OF THIS, THE SOUTHERN ALBERTA RECREATION COUNCIL RECOMMENDS THAT THE MANAGEMENT PRINCIPLE TO BE APPLIED TO THE EASTERN SLOPES BE THAT OF MULTIPLE USE. By the term multiple use, we are not suggesting that all conceivable uses of the area be allowed and/or encouraged. Rather we are referring to a definition of multiple use as suggested by the Federal Provincial Parks Conference. That being that multiple use refers to those uses of a tract of land which don't interfere with or detract from the primary use. In other words, the concept of multiple use, which we are recommending, is one where there may indeed be only one use of a tract of land if the capability of that land and the primary or dominant use is such that any other use would be of a conflicting and ultimately destructive nature. We recognize that many possible uses of the land exist and are recommending an "integrated resource" approach, based on the principle of dominant use, in an attempt to meet as many needs as humanly possible.

WE RECOMMEND, THEREFORE, THAT THE TOTAL LAND AREA OF THE EASTERN SLOPES BE SUBJECTED TO THE AMOUNT OF RESEARCH REQUIRED (e.g. INVENTORY AND CLASSIFICATION OF LANDS) TO DESIGNATE PRIMARY AND OTHER USES FOR ALL SECTIONS OF THE EASTERN SLOPES. The land can then be managed to allow such other uses as will not detract from the primary use and which can be supported by the capability of the land. Consequently, there may be units of land (e.g. big game grazing area), which are so fragile that no other use is possible or desirable. On the other hand, there may be considerable portions of the Eastern Slopes which lend themselves to a variety of uses all of which are compatible.

Our somewhat superficial analysis of the area under question suggests that recreation as a primary use is likely and desirable for a substantial portion of the Eastern Slopes. WE SUGGEST THEREFORE, THAT THE RECREATION CAPABILITY OF THE EASTERN SLOPES BE CONSIDERED AS ONE FACET IN THE DEVELOPMENT OF AN OVERALL SYSTEM OF PARKS FOR THE PROVINCE OF ALBERTA.

It is our view (the Council) that if the leisure needs of Albertans and visitors to the province are to be met, it is mandatory that Alberta move quickly to develop a comprehensive system of Recreation and Park

Services. In our view, the time is long gone when leisure needs can be met by hit and miss provision of services in an unco-ordinated manner by a variety of agencies both public and private. It is high time that someone took the initiative to provide the leadership required to co-ordinate the wide range of leisure services required by a modern society.

IT IS OUR VIEW THAT THE PROVINCIAL GOVERNMENT, AS A MAJOR PROVIDER OF LEISURE SERVICES THROUGH THE AUSPICES OF AT LEAST EIGHT DIFFERENT DEPARTMENTS AND AS A STIMULATOR OF LEISURE SERVICE PROVISION BOTH PRIVATELY AND THROUGH MUNICIPAL GOVERNMENTS, IS THE APPROPRIATE AGENCY TO SHOW THE LEADERSHIP REQUIRED IN THIS URGENT MATTER.

We further believe that the Eastern Slopes of the Rockies can and must play an important role in the comprehensive system of Parks alluded to. Our recommendations relative to a system of parks and recreation for Alberta is found in appendix A attached to this brief.

ONE ASPECT OF THE PARKS SYSTEM WE ARE RECOMMENDING IS A PROGRAM OF SCENIC HIGHWAYS. These would be low speed highways, many of which now exist, designed primarily to allow for leisure travel through Alberta's magnificent scenery. IT IS OUR CONTENTION THAT THE FORESTRY TRUNK ROAD WHICH PRESENTLY TRAVERSES THE EASTERN ROCKIES IS AN IDEAL EXAMPLE OF SUCH A HIGHWAY. WE DO NOT BELIEVE IT IS NECESSARY OR DESIRABLE TO UPGRADE THIS ROAD TO MAJOR HIGHWAY STANDARDS FOR HIGH SPEED TRAVEL BETWEEN DESTINATION POINTS.

Although our primary interests relate to leisure uses of the Eastern Slopes, we are objective enough to realize that CERTAIN LEISURE PURSUITS MAY INDEED BE INCOMPATIBLE WITH THE PRIMARY PURPOSE OF CERTAIN LAND UNITS IN THE EASTERN SLOPES OR CANNOT BE SUSTAINED BY THE CAPABILITY OF THE RESOURCE.

We are in complete agreement with restrictions being placed on such activities and, indeed, feel that RECREATION LANDS MUST BE CATEGORIZED AS TO PRIORITIES SO THAT SHOULD SERIOUS CONFLICTS RESULT FROM SEVERAL USES OF THE AREA OR FACILITY THEN THE TOP PRIORITY (ies) ONLY SHOULD BE ALLOWED. Our Council fully realizes that not all leisure pursuits can be supported

on the same tract of land and indeed that there is little need for such attempts. We realize that an all-terrain vehicle area will not likely be compatible with a fragile big game wintering area. We believe, however, that there is no need to have two such uses take place in the same area. All-terrain vehicle trails, in a comprehensive integrated system of leisure services, would be located in another more appropriate area. This approach is similar to separating boating and fishing conflicts through imposition of speed limits on certain lakes.

Similarly, we believe that certain other uses of the Eastern Slopes, such as grazing, resource extraction, etc. may not be compatible with the primary use or capability of the land. WHERE SUCH USES ARE NOT COMPATIBLE WITH THE DESIGNATED PRIMARY USE OF THE LAND, WE BELIEVE, THEY SHOULD BE DISALLOWED REGARDLESS OF ANY POTENTIAL ECONOMIC BENEFIT WHICH MAY ACCRUE. It is our contention that Albertans, generally, are sufficiently economically privileged that they need not sell irreplaceable resources simply to support "quantity" of life to the detriment of quality of life. Since scarcity is a major factor in price, it is quite possible that Albertans may price themselves out of the leisure resources market if they submit to a policy of trading such resources for economic benefits.

With specific reference to the Old Man River Watershed, we wish to make the authority aware of certain leisure needs with which our Authority is presently concerned.

We have been trying for some years to locate and establish Co-operative Outdoor Education Camp Sites in Southern Alberta. We believe that few adequate sites for wilderness facilities exist outside of the Eastern Slopes and indeed few presently exist on the Eastern Slopes. Consequently if such needs are to be met, and we strongly suggest that they must be, WE WILL APPLY TO THE GOVERNMENT FOR THE LEASE OF SUITABLE LANDS IN THE EASTERN SLOPES, PREFERABLY IN THE BEAVER MINES LAKE AREA.

IN ADDITION, WE STRONGLY SUPPORT THE REQUEST FOR LANDS FOR A CANADIAN YOUTH HOSTEL (WEST CASTLE OR ALTERNATIVELY BEAVER MINES LAKE AREA) BEING MADE BY THE CANADIAN YOUTH HOSTEL ASSOCIATION.

We strongly urge the government to designate the entire Beaver Mines Lake area as a wildlands recreation area for use by public recreation agencies such as youth serving agencies, wilderness oriented groups etc. It is our view that this is the last area left in this part of the province which is suitable for a multi-agency camp operation in a wildlands setting. It is our hope that working with the Boy Scouts of Canada (Southern Alberta Regional Council), who are already established in the area, the Canadian Youth Hostel Association who plan to establish nearby, and many other groups we can establish a wildlands camp suitable for and available to all groups.

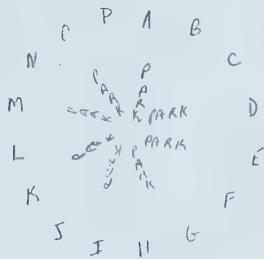
It is our view that requests such as the ones outlined above will be numerous and that considerable leisure programming will take place in the Eastern Slopes if the land is designated for such uses. If our forecast is correct, IT BECOMES OBVIOUS THAT THE AREA MUST BE ACTIVELY MANAGED. It is not our intention to suggest to government which agency should be responsible for such management, but we do strongly urge that such management be initiated immediately to insure that the precious irreplaceable resources of the Eastern Slopes are not eroded or destroyed by excessive or inappropriate use. We recognize that not all pursuers of leisure are as concerned about the maintenance of our environment as we would like them to be. We believe, therefore, that some abuse is likely and must be limited by active management.

In conclusiton, we wish to express our appreciation for this opportunity to express our sincere concerns relative to the Eastern Slopes of the Rockies. WE URGE THE GOVERNMENT TO ALLOW ONLY THOSE USES WHICH WILL SUSTAIN THE AREA IN ITS EVOLVING NATURAL STATE. SUCH A DECISION CAN ALWAYS BE REVERSED IF FUTURE NEEDS DICTATE A CHANGE, BUT THE ALTERNATIVE IS IRREVERSIBLE.

APPENDIX AA System of Parks for Alberta

It is recognized that the demand for leisure opportunities has increased dramatically over the past decade. Leisure serving agencies both public and private, at all levels, have increased program offerings, often in geometric proportions, nonetheless there still appears to be a demand for more and more. Many of the so-called social ills of society may be reduced simply to a lack of opportunity to find meaningful fulfillment in the increasing leisure which is available to many segments of our population.

It is recognized that a wide range of "needs" exist relative to leisure opportunities. In some instances, attempts have been made to service all or many leisure needs on one site or perhaps through a limited range of opportunities.

A SYSTEM OF PARKS


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The term Park as used here refers to any unit of land which meets certain specific recreation needs or desires at one sight.

The two concentric circles, above, illustrate the concept of our recommended system of parks (or leisure) services. The outer circle (A B etc.) indicates some of the wide range of leisure interest, needs, desires which exist. The inner circle reflects a consolidation of their needs, wherein two or more needs may be met in one park. Consequently, while several or multiple uses of a park may take place, it is not possible to meet all needs in the same park.

While a system of Parks appears simple and sensible to most people, complications arise because of the many and varied leisure serving agencies. It is estimated that there are in excess of twenty Federal agencies and eight Alberta Government agencies which provide some form of leisure service. In addition to this, most municipalities and countless private, semi-private or quasi-public agencies also provide such services.

In many instances these leisure serving agencies have little or no relationship, understanding, or even interest in programs or services offered by others. Consequently, there is little or no co-ordination of effort which takes place. As a result, it often happens that serious duplication of service takes place because many agencies serve the needs which are easiest to assess or which are made most explicit by the populace. Consequently, one finds that certain needs are abundantly met while certain others suffer seriously from lack of service. If full service of leisure needs is to be the goal, and we feel that it must be, this can only be achieved by a sensible, systematic, co-ordinated approach to the provision of leisure services by all agencies concerned.

It appears that the only rational method of achieving this goal is to develop a comprehensive, co-ordinated system of Park and Recreation services for Alberta. This is no simple task since it involves a range of problems, issues, and concerns including:

- determining the wide range of leisure needs which exist
- determining the agencies both public and private, existing and potential, which might meet some of these leisure needs
- determining what needs might best be met by what agency

Because this is such a wide ranging and difficult problem, it is suggested that strong leadership must be shown by some group if there is any hope of achieving a comprehensive system of leisure services for Alberta. It is recommended that the Government of Alberta is in the best position to exert such leadership and consequently, we would respectfully recommend that a "Premiers" conference be called to give "Consideration to a System of Parks for Alberta."

Such a conference could bring together representatives from all government (three levels) private and quasi-public leisure serving agencies to discuss ways and means of achieving a comprehensive system of leisure services for Alberta.

Following this conference, the ideas and views put forth could be carefully analysed by a small task force whose responsibility it would be to prepare a "Proposed System of Leisure Services for the Province of Alberta."

After such a proposal has been prepared, it would be given the widest possible public distribution with a view to soliciting representations, pro and con, from all interested parties. Such representations might best be handled by means of a series of public hearings conducted under the auspices of the Environment Conservation Authority.

At the conclusion of the public hearings, it would be the responsibility of the task force in co-operation with the Environment Conservation Authority to prepare a "revised system of leisure services for Alberta" which would be recommended for adoption by the Government of the Province.

It is recognized that following the course of action suggested here would take considerable time and consequently a "System of Parks for Alberta" may be three to five years in the future. It is our view, however, that a matter of such importance to the citizens of Alberta must be considered and commented upon by the greatest numbers of Albertans possible. Despite our concern that time is of the essence, we are of the opinion that problems caused by a three to five year delay in implementing such a system are of much less significance than denying the public the opportunity for input into such an important decision.

We believe time is of the essence and urge the Government of Alberta to exert the leadership NOW relative to the establishment of a "System of Park and Leisure Services for Alberta."

133-11

# southern alberta recreation council



P.O. Box 125  
Lethbridge, Alberta

June 14, 1973

Dr. W. Trost, Chairman  
Environment Conservation Authority  
9912 - 107 St.  
Edmonton, Alberta

Dear Dr. Trost:

Re: Our Presentation at the recent Eastern Slopes Public Hearings held at Lethbridge, June 13/73

This letter is to clarify a statement I made in reply to a question from Mr. Dowling during the above mentioned presentation.

I was asked how many members our association had and I replied that our membership was less than 50. While the response is accurate, several of my colleagues pointed out that it may have been somewhat misleading. I should have pointed out that each member represents a community or agency and thus is far more representative than the figure might suggest. In addition, it might be noted that our association conducts programs for members and non-members alike, some of which involve virtually every incorporated community in our region. As an example, one of our programs, the annual Southern Alberta Summer Games, involves approximately 15,000 area residents on a local and regional basis.

As is evident from the above my colleagues were probably quite correct in suggesting that our association is much more active and influential in the region than my statement on membership (at the hearings) would suggest.

I trust that this will assist the authority to more clearly understand our involvement in and concern for the region.

Yours very truly,

Larry R. Beres  
Executive Secretary

LRB/rb

**Recreation for everyone in your Community!**

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Mr. Beres, when you are talking about the business of land classification, how firmly would you like this protected? For example, are you prepared to see the implementation of a general plan which would give protection in law?

MR. BERES:

We never really discussed the details of this in our association when we prepared the brief. It went through the various drafts, but my understanding of the consensus of our meeting would be that we feel it is very important that studies such as the Foothills Resource Allocation Study be undertaken. Somewhat objective bodies like those should make the various fairly rigid land classifications so special interest groups like ourselves and others aren't the ones who decide what is best for that area. Legislating such information or such decisions would not be inappropriate to our concerns at all.

MR. KINISKY:

Does your association have an opinion concerning the development of commercial tourist facilities within the forest reserve areas?

MR. BERES:

Only in respect of what we stated in our brief. We suggested that those things which take place in the area under consideration should be acceptable, so long as they allow the area itself to maintain its relatively wild evolving state. If the developments were such that they destroyed what now exists, I think it fair to say our association would be opposed to them.

MR. KINISKY:

When we talk about being crowded out of our own parks during the summer season, how do you feel about tourist bureaus encouraging foreign tourists to now move into the forest reserve areas via the forestry trunk roads and use the facilities in there?

MR. BERES:

Our council has not discussed that in detail. So the opinions that I give are perhaps what I have gained from them and my own biases may be involved.

In our brief we indicated that we should be serving both Albertans and visitors to the province. At the same time we realize that basically the present attraction of Alberta to tourists is the great natural beauty of the province. Now if we have so many people coming and making such extensive use, and in some instances destructive use, of the area then we get into the vicious circle where we no longer have those things which initially attracted people. If there has to be a system of priorities, I think perhaps our stand should be somewhat nationalistic or provincialistic and we would say, residents first.

MR. DOWLING:

Mr. Beres, would you tell us the exact makeup of your association? Do you represent a number of other associations?

MR. BERES:

No, we basically cover a geographic area which extends from a line drawn across the province approximately at the Town of Nanton. We cover pretty well everything within the three borders with the exception of Medicine Hat and the rural area around it. That is the area from which we draw our membership. The makeup of the association is primarily people who are employed in municipal governments and agencies relating to the park and recreation fields as well as lay people from those communities.

MR. DOWLING:

How large a membership do you have?

MR. BERES:

Our membership numbers less than 50 at the present time.

MR. DOWLING:

In your brief you talk about primary use. How do we determine exactly what primary use is?

MR. BERES:

Our suggestion was that a study somewhat similar to the resource study done in the foothills by the task force be carried out. The data taken from that study would then be used to determine what the primary or dominant use of the area was, and also to determine what other compatible uses might exist. That would be the type of objective decision referred to earlier in Mr. Kinisky's question.

MR. DOWLING:

Concerning your specific proposal about Beaver Mines Lake, why have you chosen that particular location and who owns the land surrounding the lake?

MR. BERES:

The lake is one of the major reasons for choosing that area because as the people from the Regional Planning Commission mentioned, there is a very distinct lack of water bodies in this region. That is one of the major attractions for the type of leisure activities we are talking about in the present context. The fact that the Boy Scout people have a camp there, Camp In Peace, is also a major factor, and the fact that the Youth Hostels Association hopes to establish a youth hostel in the area is another.

Basically, what we are looking at is an attempt to bring all people together, at least in the south, to try to provide those types of programs that we can provide better as a regional group than as individuals. We want to make good use of what resources and facilities we have rather than having each agency and community running off in their own directions doing their own thing. Generally speaking, the land is owned by the province.

MR. DOWLING:

What is your association's opinion regarding privately held land on lake shores?

MR. BERES:

They have not expressed an opinion.

J. Gainer summarized the  
Canadian Petroleum Association  
Brief presented formally  
in Calgary

## EASTERN SLOPE BASINS

Primary Land Use

PRESENTED BY: G. L. Steed

I would like to submit the following to the Environment Conservation Authority as one guide for evaluating present and future use proposals of the five major watershed under consideration in Alberta.

It is my opinion that primary to every use and evaluation of that use in relation to the lands lying in these five major basins of the eastern slopes of the Rockies is "downstream water supply". That because of the poor supplies of municipal waters in some areas it is important to use this as a criteria for consideration of future uses. To be specific - is the use under consideration a modifier of downstream water supplies, and if so is it an improvement or a detriment to the supply? This does not infer additional water but may be a modification of the outflow pattern of the available waters.

As can be appreciated, the location (climate, etc.) and physical makeup of a watershed play important roles in precipitation and runoff patterns.

A preliminary evaluation of the physical makeup of the five basins illustrates the variations existent and their importance.

The Oldman River basin exists on a very small catchment area in the upper reaches of the watershed which is coupled with high precipitation amounts. The occurrence of high precipitation (> 50% in the form of snow) provides near adequate

waters for downstream users even with the small catchment area. Modifications made to the headwaters region of this basin which changed the accumulation and/or runoff pattern of the detriment of late summer flow could be disastrous.

Each basin progressively northward has a larger catchment area as well as larger areas of snow accumulation. As can be appreciated, the larger accumulation areas of snow will be less affected by a small modifier than an accumulation basin of less area. The extent that a modifier can be applied to a basin would then have to be evaluated before irreparable damages were done to the watershed.

Another factor to be considered is climatology, wherein the snow melt rate is slower as one proceeds north. That is the rate at one specific time of the year. This, then would provide better summer flows for equivalent amounts of snow accumulation than a basin further south.

Uses considered suitable for a larger, northern catchment area (e.g. North Saskatchewan) may be very detrimental for a smaller southern catchment area such as the Oldman River basin. To illustrate: removal of a large acreage of forest cover in the North Saskatchewan basin may have only minor effect on amounts and timing of runoff. The same type of removal in the Oldman River basin could have disastrous and long lasting effects.

Of major importance is the need to provide adequate waters for users all year long. Therefore, any use that may increase early flows to the detriment of late summer flows should be prevented.

Multiple use of watersheds is a necessary and desirable practice. There are many uses that are compatible one with another and these should be sought out and evaluated.

I would like to submit that no watershed be reserved for water supply alone. But, I further submit that all uses be considered in the context of their effects on the watershed as a primary use for downstream water supply. In view of the variability (physically and climatically) of each of the five basins presently under consideration I submit that uses be evaluated for each basin independent of the suitability or non-suitability of these uses in other basins.

Respectfully submitted by:

---

Glen L. Steed, P. Eng.

Addendum to:  
EASTERN SLOPE BASINS  
Primary Land Use

In an effort to further clarify my initial submission I have prepared this addendum. It is hoped that specifics, as included, will add weight to the generalities of my original presentation.

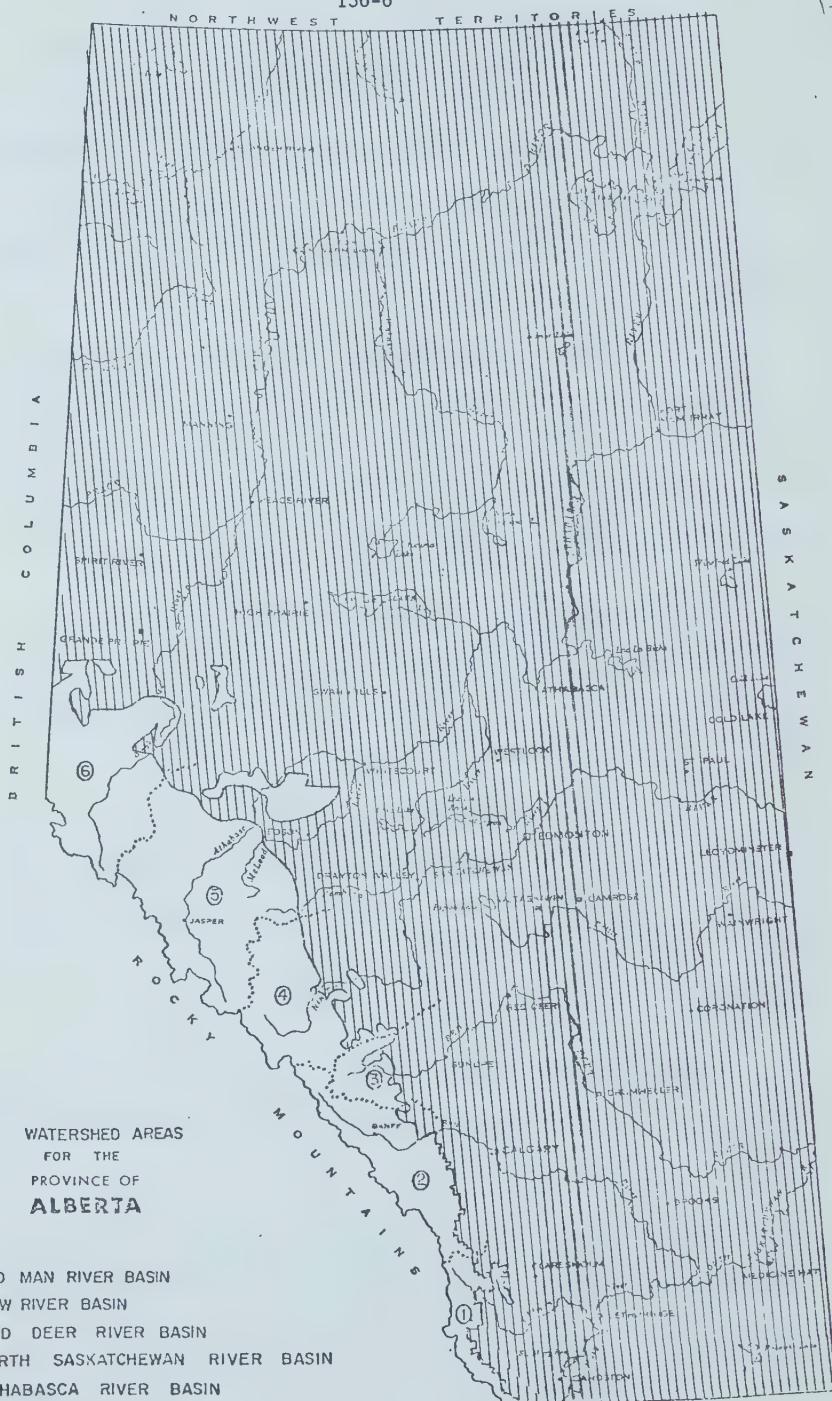
The following information relative to the distribution of watershed areas in the basins under consideration was taken from the report "The Resources of the Foothills" prepared by the Conservation and Utilization Committee of the Province of Alberta and is summarized in Table I.

As can be noted, a very small percentage of the eastern slopes watershed lies in the Oldman system - only 4%. Whereas the others, with the exclusion of the Red Deer, have much higher percentages.

I have no way of determining by reading the publication as to how the ratings were delineated for "high" and "moderate" watershed. I could assume that these were based on total runoff in perhaps acre feet or in disappearance rates in that "high" provides later season flows.

I would like to point out that no "low" area was designated. Perhaps this is the remainder of the watershed and indicates negligible to nil runoff.

After reviewing the delineation by the Conservation and Utilization Committee, I would suggest that the southern part



WATERSHED AREAS  
FOR THE  
PROVINCE OF  
ALBERTA

- 1 OLD MAN RIVER BASIN
- 2 BOW RIVER BASIN
- 3 RED DEER RIVER BASIN
- 4 NORTH SASKATCHEWAN RIVER BASIN
- 5 ATHABASCA RIVER BASIN
- 6 SMOKY RIVER BASIN

TABLE 1 Distribution of Total Eastern Slopes Watershed Conditions

Rating of Watershed	Basins by Percentages (Approx. Only) *				
	Oldman	Bow	Red Deer	North Sask.	Athabasca
High Watershed Condition	5.2/34	4.7/12	0.4/2	12.5/14	58.1/48
Moderate Watershed Condition	3.5/66	12.6/88	8.2/98	28.4/86	22.4/52
Total Watershed	3.9/100	10.6/100	6.2/100	24.2/100	31.7/100
					23.4/100

\* Left value represents percentage of total eastern slopes watershed condition lying in a specific basin.

Right value represents percentage of a watershed condition in a specific basin.

of the Province of Alberta is even more sensitive to the watershed on the eastern Rockies than those north of this basin and specifically those that are north of the Bow River Basin.

To illustrate, runoff from areas lying east of the designated "Watershed Resources" is negligible in the Oldman Basin but occurs in the more northerly basins. Although this does not appreciably benefit the flows in the summer there is additional runoff for storage and use downstream.

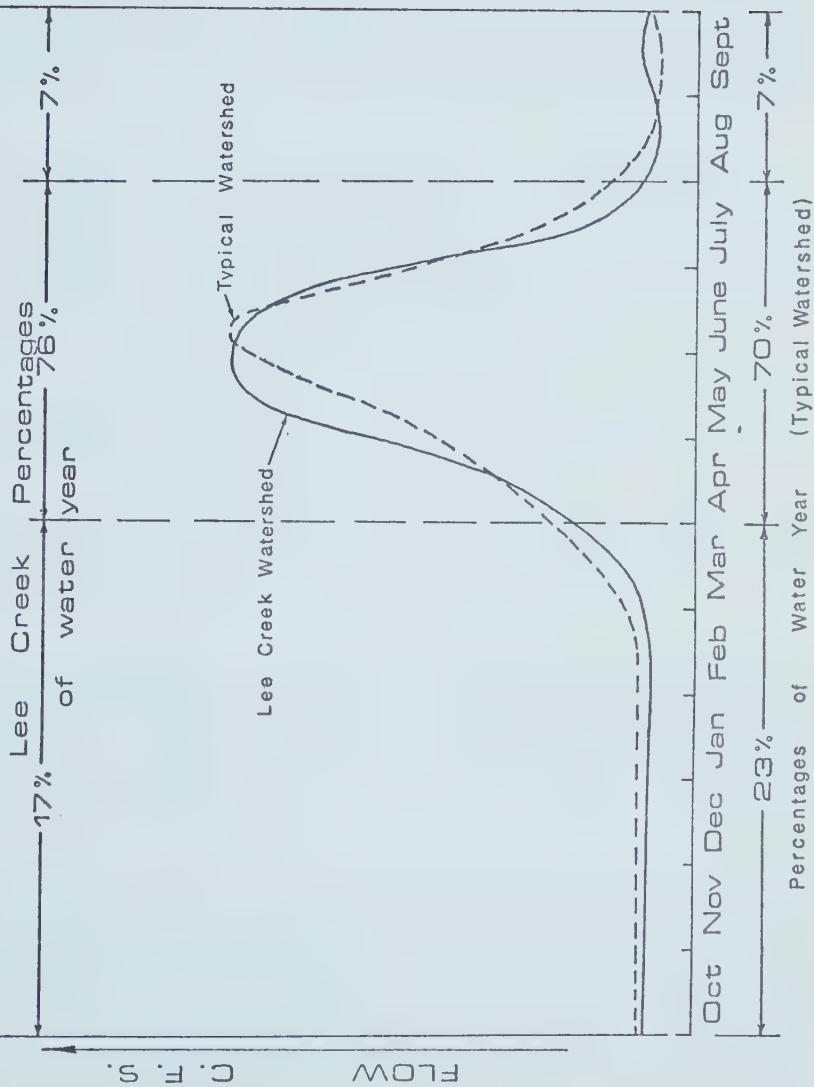
Desirable management of watersheds in this area would be that which would distribute the flow from snow melt more evenly over the summer to fall part of the year, (see Figure - "Hydrograph of Snow Melt Stream"). Practices which: 1) reduce total flow, 2) make sharper peaked hydrographs, 3) shift the peak to an earlier date in the year, or 4) reduce the base flow of a stream are to be guarded against. Conversely any practice that will result in opposite affects to those listed above should be encouraged.

I would also like to submit that there is a very important need in the Provincial Government for a specific administrator of watershed management.

This administrator would guide compilation of management criteria as dictated by each watershed, work in conjunction with potential users in formulation of use practices, and limitations of development and restoration where necessary.

In the past, watersheds (and this includes all sizes and uses) have been considered either protected or not essential

# HYDROGRAPH OF SNOW MELT STREAM



for protection. It is important for all peoples of the Province to obtain maximum returns from a watershed. This can only be achieved through multiple use and where the watershed per se is maintained for our posterity.

Thank you.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Have you done any work comparing the amount of precipitation which actually occurs up in the bushland as compared to what occurs in the grasslands?

MR. STEED:

I was involved with a study up in the Lee Creek. We have a very definite demarcation in this high chinook area. This is the only area I'm really aware of, that I have had concern with and any information from. In the high chinook area you have negligible run-off and a negligible amount of storage. In other words the only storage that occurs is in coulees and behind dense tree stands. This sort of thing would be considered as spring melt and spring run-off.

MR. KINISKY:

When you're talking about stream flows, are you talking essentially about the snow melt coming down or the result of precipitation which occurs earlier in the year?

MR. STEED:

Total precipitation. This includes snow melt and precipitation in the form of rain that may occur during the growing season.

MR. KINISKY:

In the meteorological sense, on a regular basis we have a migration of the precipitation maximums from the southern portion of the province moving upwards through the foothills and finally across to the Fort McMurray region later in the summer. Could there be any improvement in the ability of your drainage basin to hold the water and deliver it at a later date if there were any major modifications taking place in the grasslands?

MR. STEED:

No, I don't think there would be anything there. The modifications would have to occur in the actual watershed itself or within the trees. The actual grass area could be bona fide. In Wyoming, which is comparable to Alberta, people have done a lot of work on snow fences for trapping snow and retaining it for spring melt and run-off. This could be beneficial, but it would increase the actual snow pack preliminary to snow melt run-off. It would come into that particular period probably in the first part of May. You would get run-off which would be beneficial to some communities where they don't have on-stream storage or anything like this. But where our major users come in in June, July and August storage would be available downstream, in Saskatchewan and so on.

MR. KINISKY:

What do you anticipate will be the effect of lumbering in the particular watershed area you are interested in?

MR. STEED:

My personal observations and reading literature from the United States show that you affect the run-off and the snow and water

contribution in two ways: one is to shift that peak earlier into the year and the second is develop a higher, sharper peak. A third way is to reduce the amount of run-off. In this particular area, because of chinooks, there is a fair loss from blowing snow. The study in Wyoming has shown that if they place the snow fences, I don't remember whether it's 3,000 or 4,000 feet, they can actually trap total snow that falls. If it moves further than that it goes back up as melt or evaporation.

MR. DOWLING:

Have you had the opportunity to examine the historic records to see what changes in flow may have taken place over a period of years?

MR. STEED:

In relation to development in the mountains and so on?

MR. DOWLING:

That's right.

MR. STEED:

No, I have not done any of this as regards the actual amounts. I haven't had an opportunity to do that. The only thing I could say that came close was in the Peace River area where I tried to do a study of temperatures, wind and so on from actual clearing of land. We weren't able to get any correlation in that area on that particular type of study. But I must admit I don't have anything as far as development and its effects on run-off here.

MR. DOWLING:

Do you know how far back our water records go for the Oldman River basin?

MR. STEED:

The record on the St. Mary, from the south side - which is one of the longer ones - is for 67 years I think.

MR. DOWLING:

Do you think it would be worth while to examine historic data to determine the effect on run-off of development?

MR. STEED:

It very definitely would. For potential development of forestry clearing and so on, it would be one of the major steps to be taken in anticipation.

MR. DOWLING:

You've mentioned the possibility of having an administrator of watershed management. Have you any idea to which government department this administrator should be attached?

MR. STEED:

Right now the Department of the Environment has what they call a conservation division; they are involved with conservation and utilization. They are members of the Conservation and Utilization

Committee. I feel there is a need for this because we are oriented more to preservation than mutual utilization. I feel a man could step in, probably in the Department of the Environment, to start a very important operation in the preparation of criteria and so on for multiple use of a watershed.

DR. TROST:

Mr. Steed, you're suggesting that watershed run-off is subject to variations, that it goes through sharp peaks. Do you feel that steps should be taken to control that high peak and to ameliorate the ups and downs a little bit?

MR. STEED:

I think there is a capability here that can be utilized to flatten out those peaks. I'm not recommending this, but you can do it by clearing the south facing slopes so the snow will melt faster there and bring run-off a little earlier in the year. But in our particular area we are not as concerned with that as we are with the latter part of summer when the flows become very low. Therefore, to me it would seem desirable to try to prevent this peak run-off from leaving us and going downstream.

We are committed, as we are all aware, to a certain delivery to Saskatchewan and downstream. Whatever goes down that they can store, we've then met our commitment. I feel it is more important to supplement that later run-off and help bolster use in July, August and September.

DR. TROST:

Some of these methods might be called natural methods. I suppose there are mechanical storage methods that might be used. Are you suggesting storage methods?

MR. STEED:

No, I'm not suggesting that. What I have thought of are things such as increasing the amount of snow pack on watersheds. I have not thought specifically about cloud seeding, although this is one way you can do it. In the U.S. people have even looked into the possibility of enlarging the cirques on the top of the mountains with mechanical equipment to increase the amount of snow pack at higher elevations and therefore increase the later run-off. These are things that can be done. I would prefer to see the tree thinning procedure go on, rather than some of these others.

MR. DOWLING:

In your administration system what kinds of powers and responsibilities do you feel would be needed by a watershed basin administrator, for example in the Oldman River basin?

MR. STEED:

I feel that this particular person would have to have a clear and concise understanding of the contribution from each of the watersheds, and I mean small ones within the Oldman basin. He would have to have the ability to regulate, to the extent that he would make recommendations to a higher authority when there was a conflict of interest between users. This particular recommendation would have to be based on actual criteria and studies.

An illustration, one I have thought about quite often, is the tree clearing business whereby you could go in, harvest, and leave stands of 60 to 80 feet across between trees. This particular area would increase the snow pack on that. It would be mandatory to do it on the north slopes. You would be able to dictate or stipulate to those doing this particular tree thinning that these would be the criteria. He could specify the spacing, the aspect, the per cent slope you could do it on, and this sort of thing. He would have to base it on available data.

DR. TROST:

This is rather like the role of the Eastern Rocky Mountains Forest Conservation Board, which has recently been disbanded. That is what you have in mind, something like that sort of function?

MR. STEED:

I do not have in mind doing the actual research, but he would have to take research information and say what is the best possible use for a particular area.

DR. TROST:

Your thought then is in a way to replace the function established by the Eastern Rocky Mountain Forest Conservation Board but by a more relevant administrative agency.

MR. STEED:

Yes, that's right.

A Brief Presented

by

CanPac  
Minerals Limited

to

The Environment Conservation Authority of Alberta

at

Public Hearings

on

Land Use and Resource Development

in the

Eastern Slopes

—

June 1973

Presented by:

R. D. Livingstone

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CanPac Minerals Limited appreciates the opportunity to present a brief at this public hearing. It is of utmost importance that the facts relevant to the existence of rich coal deposits, the advantages of their extraction, the protection of the environment during such extraction, and the reclamation process be laid before this body and the general public. This will allow the Authority to examine the situation in proper perspective and arrive at decisions in an atmosphere devoid of the emotionalism which too often characterizes exchanges between environmentalists and industry.

This appearance before the Authority will also provide us with an opportunity to counter the unfortunate impression in the minds of some people that we are not concerned with the environment. It also allows us to present evidence demonstrating that protection of the beauty of this country has been a major factor in our past performance and plans for the future.

At each of the hearings, our brief deals with CanPac Minerals Limited's holdings only, and with the acreage within the boundaries of the particular watershed under consideration.

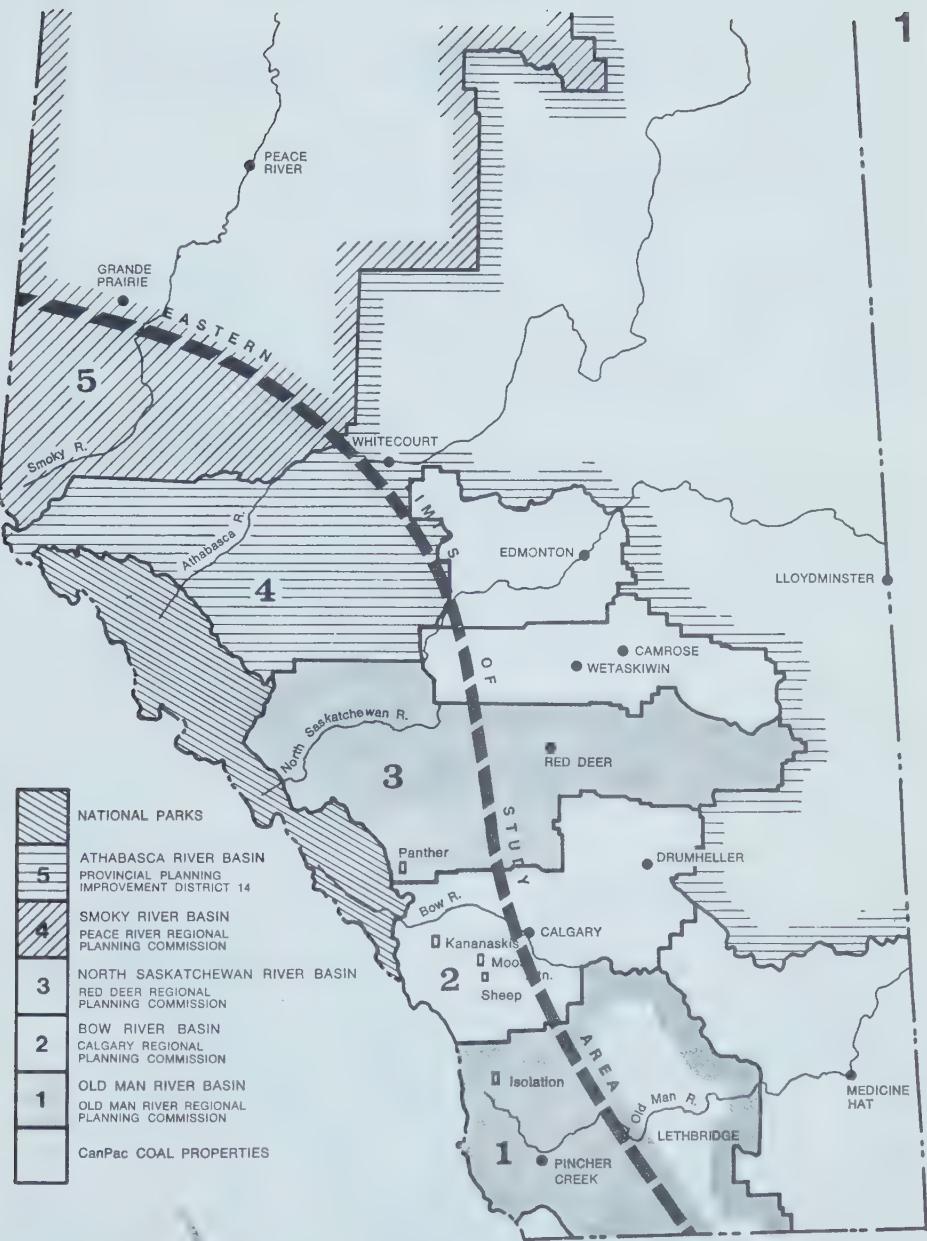
## INTRODUCTION

CanPac Minerals Limited is owned 60% by Canadian Pacific Investments Limited and 40% by Cominco Ltd. One of the primary functions of the company is coal exploration and development. Over the past several years, as a result of its exploration program, the company's Fording Coal property in British Columbia has been brought into production and detailed investigations have been conducted on several properties in Alberta. In addition to work on specific properties, the company has carried out wide-ranging reconnaissance of all of the coal-bearing formations south of the North Saskatchewan River. We have concluded from this reconnaissance that coal bearing formations are widespread, but potential mineable blocks of coal are relatively few, and are the exception rather than the rule, and that mining will only be feasible in very specific small areas. Although CanPac has examined numerous coal prospects within the Eastern Slopes only those properties possessing development potential are held today. These are, from south to north;

1. Isolation Property (Oldman Basin)
2. Sheep Property
3. Moose Mountain Property
4. Kananaskis Property
5. Panther Property (North Saskatchewan Basin)

{ (Bow Basin)

The location of each property is shown on Map No. 1.



## THE OLDMAN WATERSHED BASIN

### **The Isolation Property**

In the Oldman River Basin, CanPac holds leases on 32,000 acres of coal lands, known as the Isolation Property (Map No. 2). Two million dollars has already been spent over three seasons of exploration activities in this area, which include drilling, trenching, adit driving, land reclamation, sampling and coal and coke testing. The leases were granted, and the exploration program carried out, with the aim of eventual development of the property. This work was done with due and proper regard for protection of the environment, which is an established policy of CanPac Minerals Limited, the details of which are elaborated in Appendix II of the brief.

Results of this exploration work indicate a total of 35 million tons of high grade coking coal recoverable by open cast methods. In addition, there are 100 million tons amenable to mining by underground methods. The total area which would have to be **temporarily** disturbed — and we must emphasize the word "temporarily" — would be approximately 1,600 acres. This is the total acreage necessary for mining, overburden disposal, roads, plant site, tailings pond, storage and load out areas, etc. for the complete operation at the site.

The acreage in question represents approximately 1/10 of one percent of the land within the eastern slope area considered in the Oldman hearings and approximately 1/20 of one percent of the total land in the Oldman River Basin. The Isolation property is located approximately five miles west of the Kananaskis highway, and it is not visible from the highway.

Since it has been suggested publicly that vast areas would be subject to open pit mining, we feel it should be pointed out that the entire area which would be temporarily disturbed within CanPac's property bears a size relationship to the Oldman River drainage basin equivalent to a 9" x 9" floor tile to the entire area of an average 1400 square foot home. In reality, however, as reclamation would follow the mining phase, the land actually disturbed and not reseeded at any one time will be approximately one third of that amount, or equivalent to a patch 5 1/4" x 5 1/4" in the average-sized home.

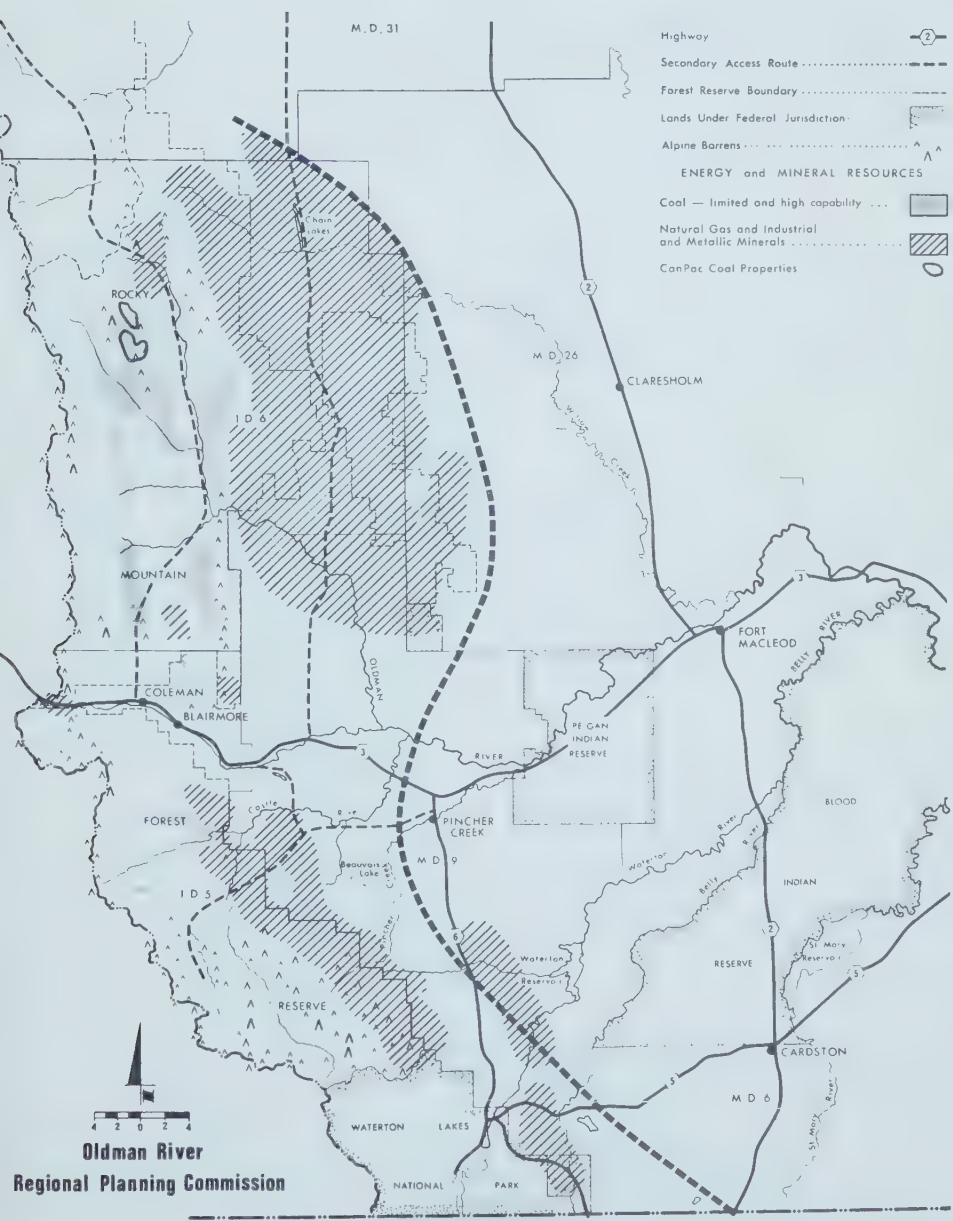
### **Multiple Resource Development**

To illustrate how development of this property would fit in with the major types of resource development we have obtained permission to use some of the maps contained in Information Bulletin No. 5, Land Use and Resource Development in the Eastern Slopes — Oldman

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## NON-RENEWABLE RESOURCE CAPABILITIES

2



River Drainage Basin, as prepared by the Oldman Regional Planning Commission.

We have superimposed the location of CanPac's Isolation property on these maps to provide a visual conception of how mining would fit in with other resource development.

A study of these maps reveals that the property is ideally located for co-existence with the capabilities of the area.

#### **Tourism**

From the tourist point of view (Map Nos. 3 and 3A), we see no conflict whatsoever, for the property is located in an area not visible from the Kananaskis highway. In reality, we see the possibility of the operation becoming an added tourist attraction, not unlike the manner in which the U.S. tourist industry has capitalized on the operation of large scale open pit mines and the construction of major dams.

#### **Wildlife**

From the point of view of wildlife co-existence (Map No. 4), our experience during the exploration period would indicate that the major fear in this regard is that the animals become too tame and are easy prey to hunters. It is not uncommon for mountain sheep, deer and moose to graze in close proximity and plain view even during blasting operations. Having the mine site and fringe areas declared a game preserve would overcome any difficulties in this regard.

#### **Grazing Land**

From the point of view of grazing land (Map Nos. 5 and 6), the 1,600 acres required for the entire operation must be reduced by that portion which is not now suitable for grazing, and further, it must be borne in mind that only a portion of the land will be disturbed at any one time. The reclaimed, reseeded land will, without doubt, be better grazing land than at present, resulting in a net gain as far as this resource is concerned.

#### **Other Resources**

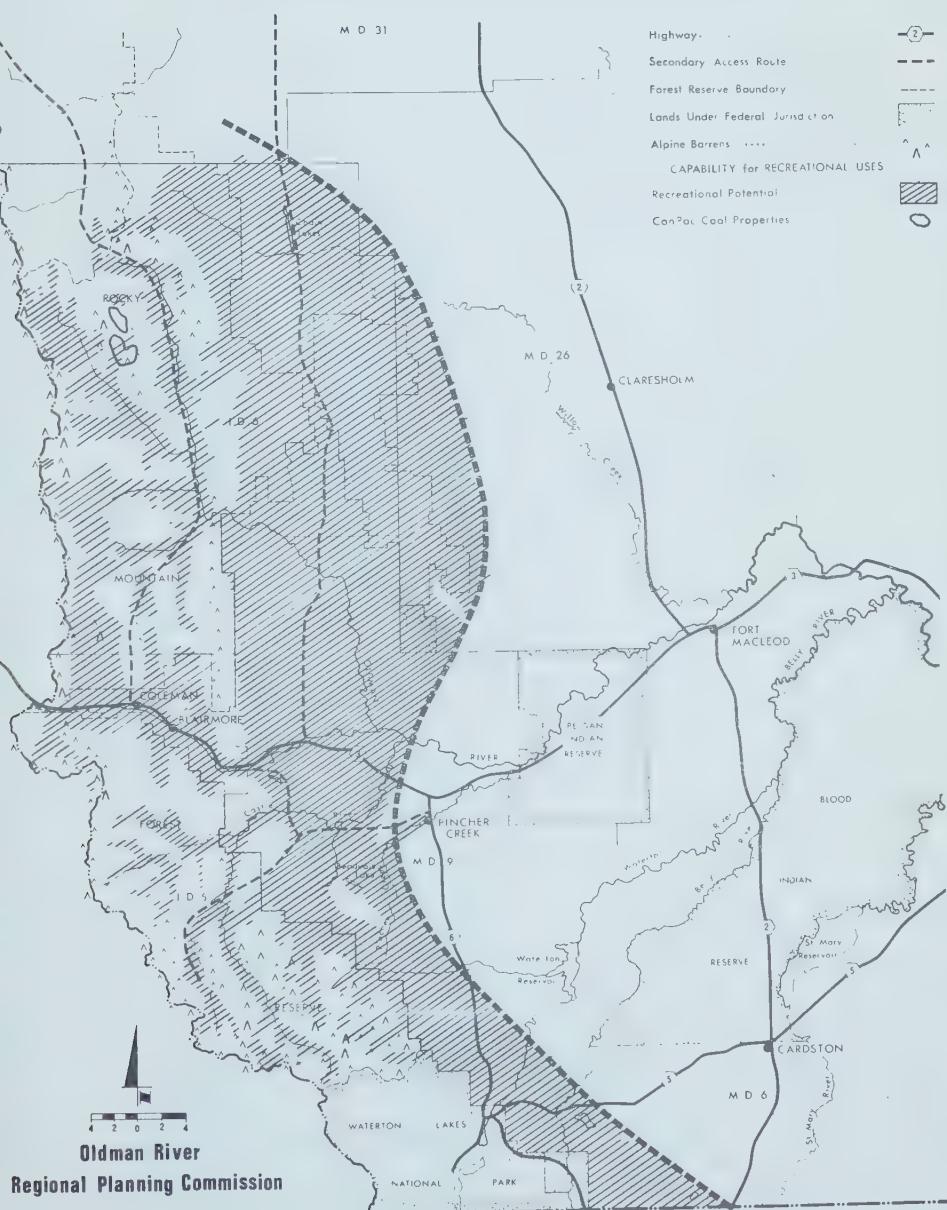
There appears to be no conflict with other minerals, and the nearest historical or archaeological sites are two miles beyond any proposed activity (Map No. 4).

Looking at the operation from the point of view of timber resources (Map Nos. 5 and 6), the normal procedure would be to log

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## OUTDOOR RECREATION CAPABILITIES

3



140-10

## BOW RIVER BASIN

3a



SCALE 1 INCH TO 12 MILES APPROXIMATELY  
 10 0 10 20

## OLDMAN RIVER BASIN MAJOR DEVELOPMENT PROPOSALS

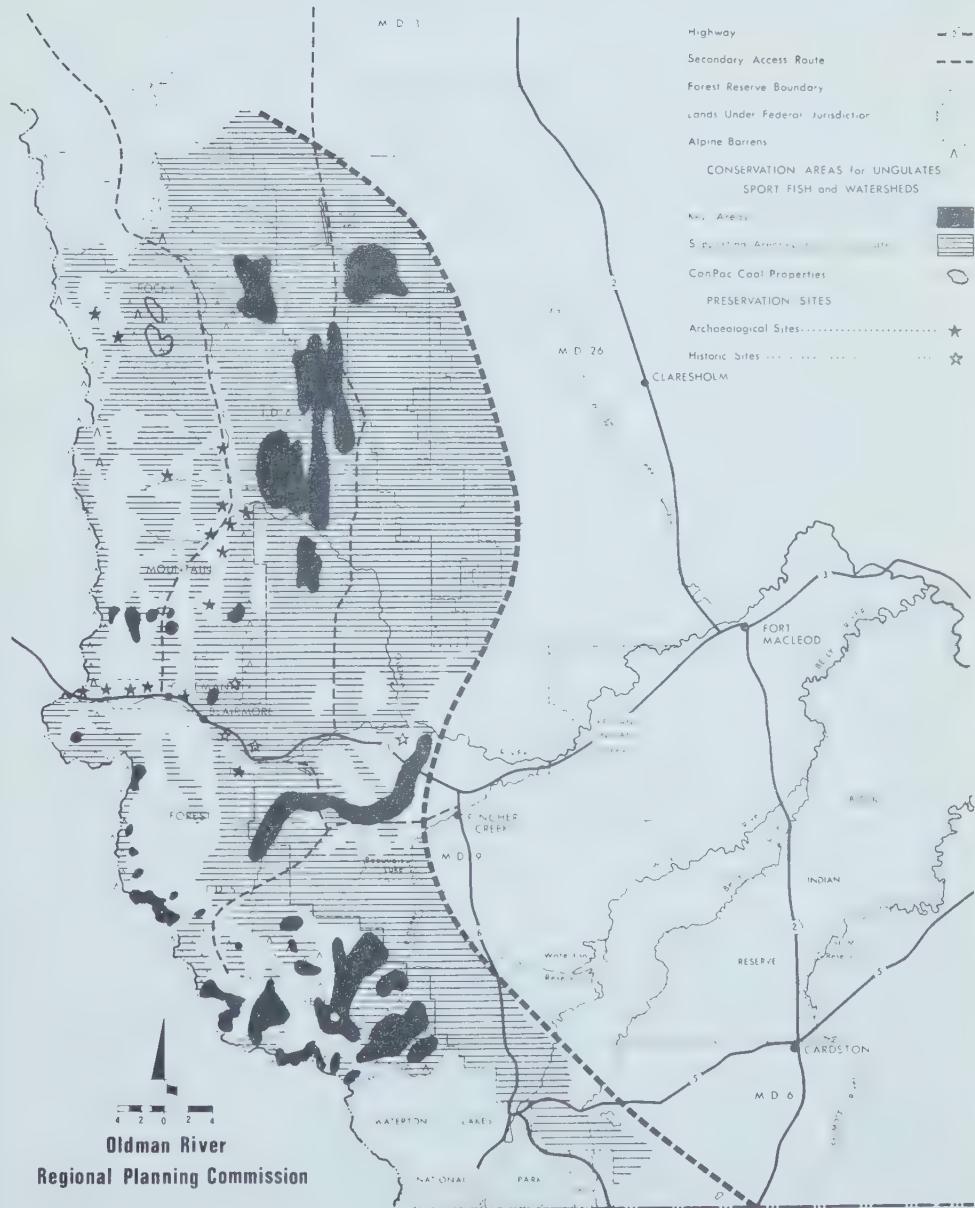
TOURISM AND RECREATION



City	□
Town	■
Village	●
Highway	—②—
Provincial Park Boundary	---
National Park Boundary	—
Rocky Mountain Forest Reserve Boundary	—
Proposed Youth Hostel	▲
Proposed Development	●
Proposed Development (Approx.)	○
Proposed Development Area	---
Proposed Wilderness Area	---
CanPac Coal Properties	○

## **CONSERVATION and PRESERVATION CAPABILITIES**

4



off and sell commercially the timber from those areas to be temporarily disturbed or otherwise occupied by plant buildings etc. Following mining, the area would then be reclaimed, with tree planting being part of the program.

#### Water

Finally, the most important resource which must be protected is the quality and quantity of water emanating from the area. Run-off characteristics and protection of the fish life are also prime considerations. We wish to state very emphatically that CanPac realizes it is vital that the water resources of the area be protected. While at any one time only one acre in approximately each two thousand within the Oldman River basin will be affected by mining in this property, the pitch of the seams allows for the design of mining pits in such a manner as to trap additional snow thus increasing the efficiency of the area as a catch basin for water. In addition, these reservoir type pits will inhibit the rapid spring run-off of water. We realize this will be offset by the removal of trees from the property, not all of which, by the way, is now covered by forest. The run-off area in question, however, is so small as to have no measurable effect on the overall water picture in the Oldman River Basin.

Regarding stream pollution, the three major areas of concern will receive attention in much the same manner as is the case with CanPac's related company, Fording Coal Limited, which is presently operating on the British Columbia side of the border.

Firstly, in regard to run-off from the recently disturbed areas, this problem is now being satisfactorily dealt with by the establishment of large catch or impounding basins in which the silt is allowed to settle, and only clear water enters the stream. The low sulphur content of Western Canadian coal, and the fact that most of the sulphur is present in the organic or sulphate form, means that acidity in run-off water presents no problem.

Secondly, water pollution from plant effluent is prevented by a closed circuit tailings disposal system, used successfully by several mining operations in Western Canada. The system employs an impervious impoundment into which the tailings from the process plant are pumped. The solids settle and the clarified water is returned to the plant for re-use in processing. Some additional fresh water is required to augment the recirculated supply but all process water remains in the closed circuit while the solid wastes are impounded.

Thirdly, modern plants are designed to meet clean air standards.

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While some may fear that a credibility gap may arise between what is now said and what actually will be done, such fears should be allayed by the fact that all three of the foregoing practices are an accomplished fact at Fording Coal Limited.

Therefore, we would reiterate that CanPac is cognizant of the great value of the water in the Oldman River basin as a primary resource, and will take the necessary steps to assure its protection.

CanPac also has coal properties in other regions of the Eastern Slopes each representing a valuable coal resource. To avoid repetition, these other properties will not be described in the same detail as the Isolation property.

## THE BOW RIVER WATERSHED BASIN

CanPac has three coal properties lying within the confines of the Bow River Basin which, for sake of convenience, we refer to as Moose Mountain, Kananaskis and Sheep. All of these properties are located within the boundaries of the Elbow-Sheep Wilderness area as proposed by the Alberta Wilderness Association (Map No. 7).

### **The Moose Mountain Property**

CanPac is lessee of some 11,000 acres in Townships 20 and 21, Ranges 6 and 7 W. 5 Meridian. These leases were retained following a very comprehensive exploration program covering some 64,000 acres in this area. The limited area retained contains reserves of bituminous coal mineable only by underground methods and further evaluation awaits market development. It should be noted that, although we refer to this property as the Moose Mountain property, it in fact lies some 16 miles to the south of Moose Mountain.

### **The Kananaskis Property**

CanPac is the lessee of approximately 15,700 acres in Townships 21 and 22, Ranges 8 and 9, W. 5 Meridian. A comprehensive geological survey has been made of this property, but the drilling required for proper evaluation has not been carried out to date. Preliminary results indicate that the structure is complex. This property is not located in the main Kananaskis valley but in a tributary valley, in the upper reaches of Evans Thomas Creek.

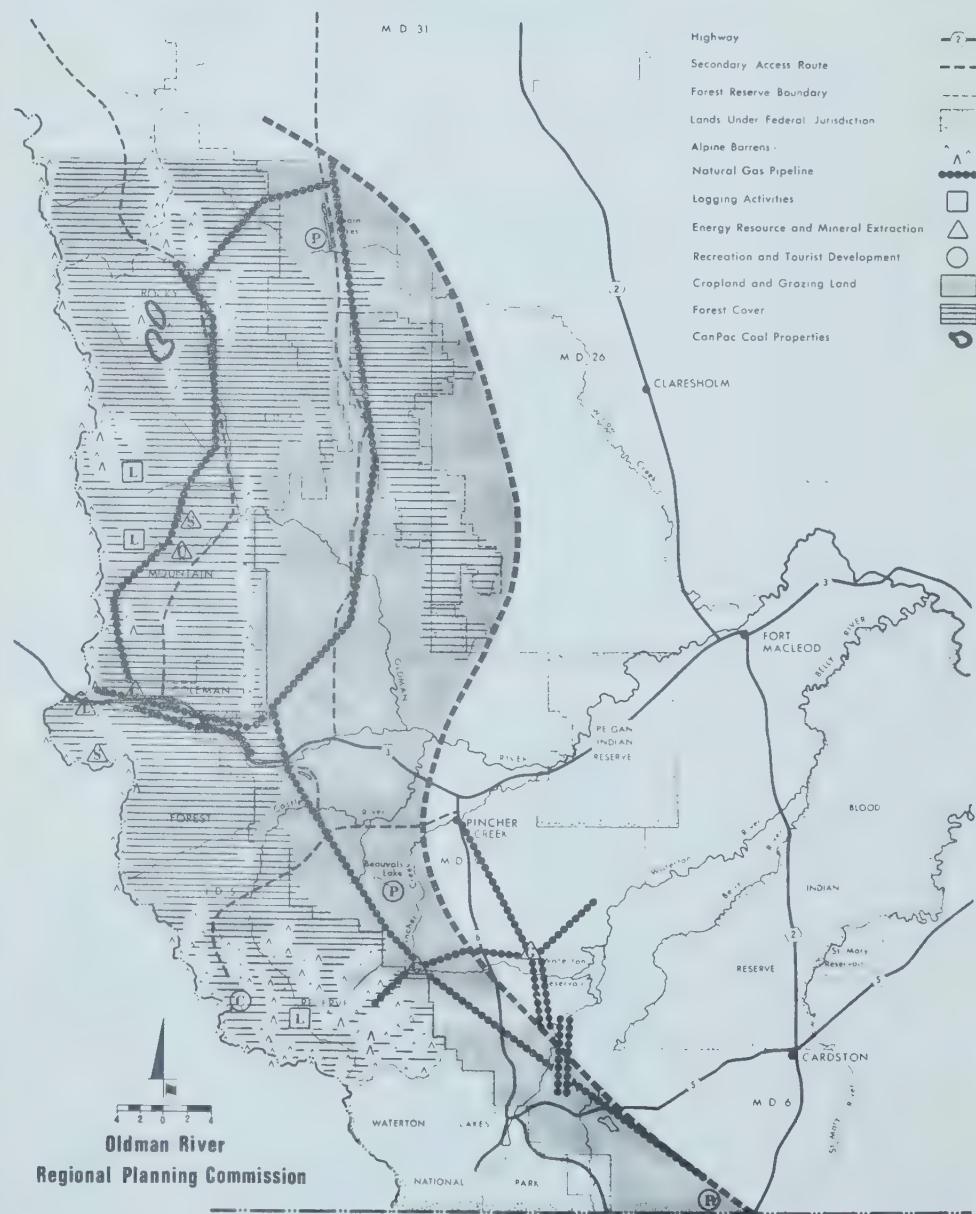
### **The Sheep River Property**

CanPac is the lessee of some 3,000 acres in Townships 17 and 18, Range 5, W. 5 Meridian. Geological mapping and limited drilling indicates possible reserves of underground coal, although any

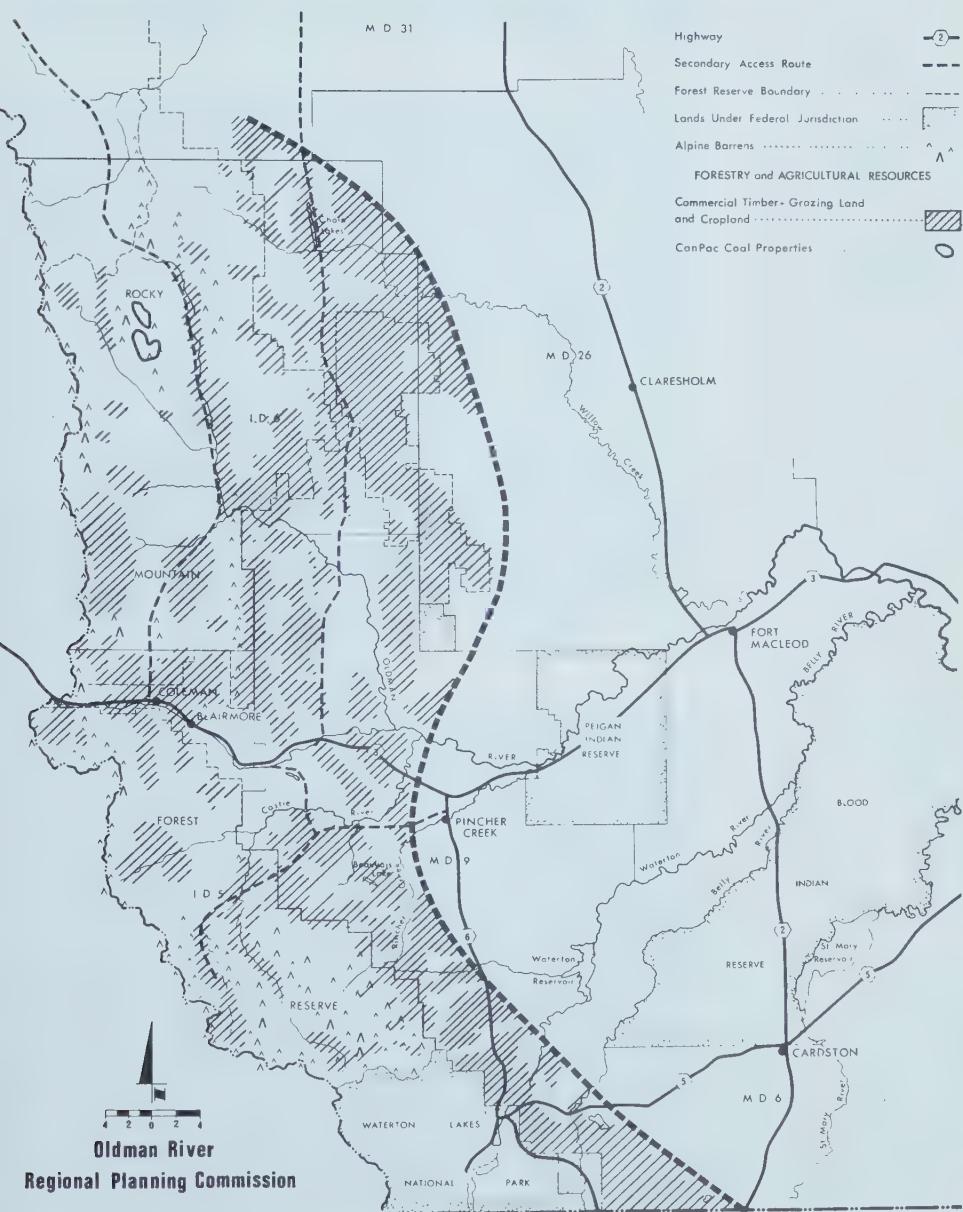
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## PREDOMINANT EXISTING LAND USE and CHARACTERISTICS

5



## RENEWABLE RESOURCE CAPABILITIES



development here would necessarily involve joint operations with neighbouring properties.

## THE NORTH SASKATCHEWAN AND RED DEER WATERSHED BASIN

### The Panther River Property

CanPac holds a 25% undivided interest in approximately 33,000 acres of coal leases, bordering on the Red Deer and Panther rivers in Townships 30 and 31, Ranges 11 and 12, W. 5 Meridian, and also in Townships 32 and 33, Ranges 12 and 13, W. 5 Meridian. The results of an extensive exploration program, including drilling and adit driving, indicate that the coals are of good quality and are suited for mining by underground methods. Further evaluation of these reserves awaits market development. It should be mentioned that this deposit appears to be the only recoverable coal reserve of any magnitude, outside Banff National Park, between the Bow and Ram Rivers.

The Panther property is located in the same region as a proposed major tourist and recreation development, however, it is not unrealistic to visualize a scheme integrating recreation and mining development and at the same time providing for protection of wildlife. Map No. 8 shows the location of these proposed developments.

### BENEFITS FROM DEVELOPMENT

Having thus dealt with these coking coal deposits in relation to other major resources in the area, it would appear wise to point out some of the major benefits which will be derived from the development of any one of these properties.

Firstly, let us consider the creation of new jobs. If we assume a two million tons per year surface operation, during the construction period of two to three years there would be up to 800 jobs created at the site. During the subsequent period of mining operations there would be 450 permanent jobs at the site.

A recent study of the British Columbia Mining Industry in 1971 by Price, Waterhouse & Co., Chartered Accountants, revealed that for each job at the mine an additional eight other jobs were created in Canada. Using this figure there would be created a total of 4,050 new jobs in Canada, many, if not the majority of which would be in Alberta. Assuming an average-sized family of four, there would be 16,200 persons dependent for their livelihood upon the development of any one of these properties.



ELKFORD

A modern community developed to accommodate employees of Fording Coal Limited.

CanPac  
Minerals Limited

# RESEARCH IN RECLAMATION...



## Test Plots in Review.

A.

Soil Stabilization . . . effectively demonstrated in this photograph showing one full year's growth of grass seeded on upper and lower slopes of an exploration road in the Isolation Ridge-Oldman River area. The bank above the road is facing north.

A.

B.

Late October view of a reclaimed adit site, drill site and access road at the 7,200 foot level in the Panther River area. A healthy two year growth of grass; the result of aerial seeding by helicopter.

C

An aerial view of two  
reclaimed oil shale and an  
access road at an elevation  
of 8,000 feet in the Isolation  
Ridge area. Grass was  
seeded in the fall and this  
picture taken the following  
spring.

D

A view of a section of a  
reclaimed access roadway,  
10 months after seeding at  
the 7,000 foot level in the  
Isolation Ridge-Clover  
River Area. This is a  
northern exposure involving  
a pre-combustion shale  
type soil.



C

D



140-19  
**NORTH SASKATCHEWAN  
 RIVER BASIN**



SCALE 1 INCH TO 12 MILES APPROXIMATELY

10 0 10 20



**BOW RIVER BASIN**

**MAJOR DEVELOPMENT PROPOSALS**

TOURISM AND RECREATION

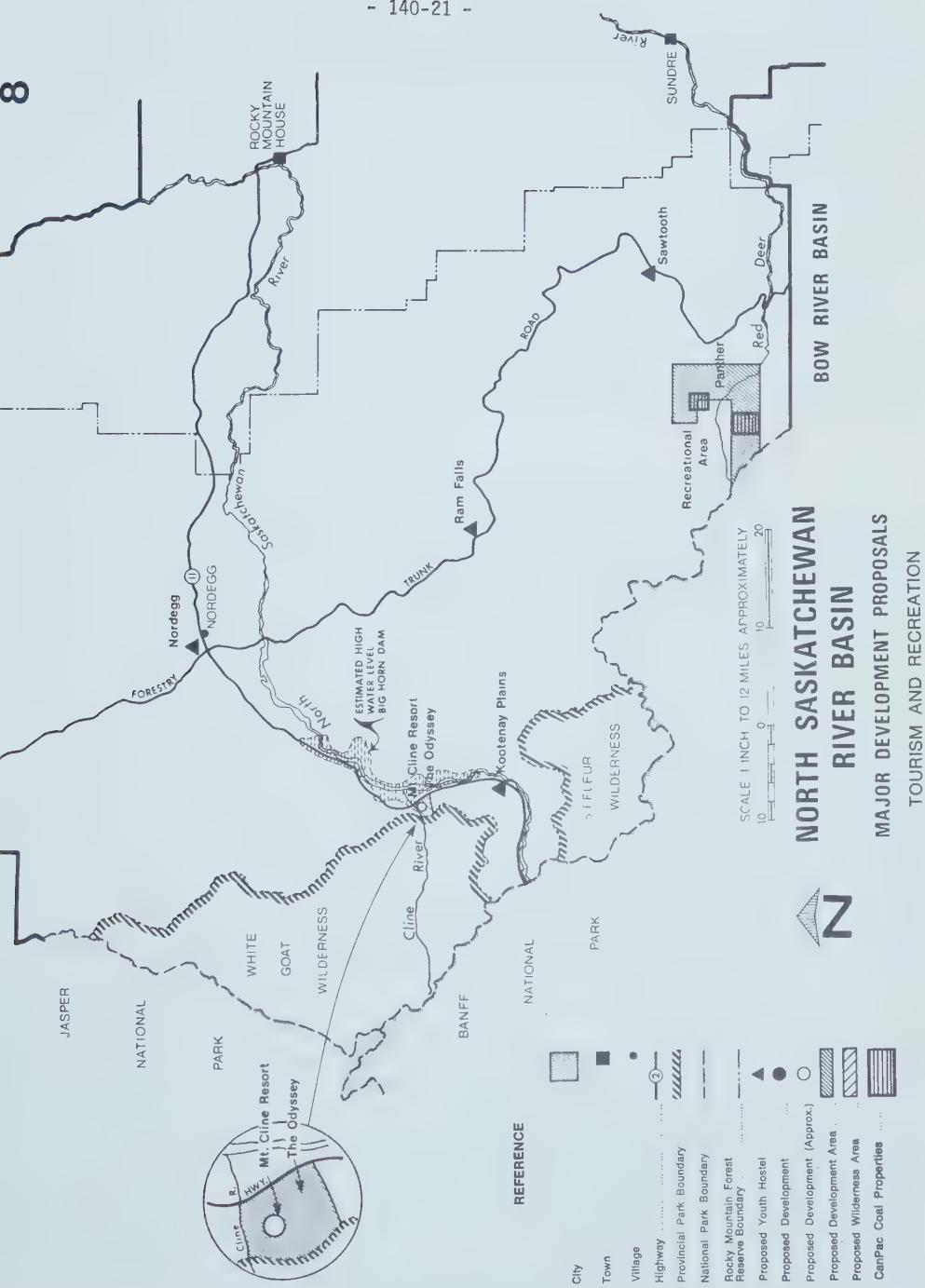
Secondly, let us consider the property from the point of view of land productivity. Using as our sources the Canadian Wheat Board and the Alberta Department of Agriculture's Marketing and Statistics Branch, we find that in Southern Alberta (which compares favourably with the rest of Alberta because of considerable irrigation) each acre seeded to grain in 1971 produced an average gross product value of \$36.73 (\$142,264,670 from 3,873,174 acres). On the other hand, if an acre of land underlain by 16.7 feet of coal were temporarily dedicated to mining, and the selling price of coal at the property taken at \$12.00 per ton, the gross value of production would be 30,000 tons x \$12.00 = \$360,000 per acre or 9,800 times the annual value received from agricultural production. When road, plant site and storage area, which are also required for the mining of the coal, is taken into account, the land is still some 6,300 times as productive as the aforementioned agricultural land. Obviously, to disturb this land temporarily will be of major benefit to Albertans.

To further emphasize the intensive use of land by the mining industry, the Price Waterhouse study revealed that 1,200 jobs are created for every square mile of land utilized.

Thirdly, the economic benefits to the country in the form of corporate and personal income taxes, municipal, school and sales taxes payable to all levels of government are substantial. Not to be forgotten is the essential contribution to our balance of payments of approximately \$40 million a year from each such operation.

To summarize, we wish to emphasize the following points:

1. CanPac Minerals Limited holds valuable coking coal deposits in the Eastern Slopes, the extraction of which would be advantageous to Canada, and Alberta in particular, and if we assume a two million ton per year operation, any one of these properties would provide the following benefits:
  - a. the creation of 450 new jobs at the site, and 4,050 new jobs in Canada as a whole, many of which will be in the Province of Alberta.
  - b. an annual payroll at the site of \$4 to \$5 million.
  - c. a substantial contribution to the federal, provincial and local tax base.
  - d. an improvement in Canada's balance of payments of approximately \$40 million per year.



2. The properties are so located as to have minimal effects on other resources of the area, and may enhance some.
3. The watershed is considered by CanPac to be of major importance and will be protected.
4. CanPac Minerals Limited follows a definite established policy of environmental protection and reclamation, as evidenced by its exploration work on these properties, and mining by its associated company at Fording River.
5. Modern preparation plant design is such as to ensure clean air and water standards.

## SUMMARY STATEMENT

The Eastern Slopes have a distinct physical and biological environment, abundant with natural resources, the most important of which is water. In looking at this area for potential development a balance has to be decided between two extremes:

Complete development  
and  
Complete preservation

Neither of these extremes can be considered realistic and therefore careful planning must be done by the authoritative bodies resulting in an acceptable compromise with maximum total benefits to the public. It is in this role that the "multiple use concept" becomes important. CanPac, as a coal operator with valuable resources in the Eastern Slopes, is confident that it can operate in the region with a minimum of environmental damage. At the same time we would not suggest that the whole area be thrown open for coal mining, just as we would not want to see uncontrolled tourist and recreation development.

In the final analysis, it is an irrefutable fact that upon industry depends the prosperity of the country and foremost in industrial requirements is a healthy extractive arm for the production of raw materials and energy. To this must be added the vital need in Canada for the continual creation of opportunities for employment. When these two conditions can be met, while at the same time protecting the environment, it would appear wise that certain lands should be available for coal mining. We so recommend to the Authority, and express our appreciation for the opportunity to make this presentation.

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## ACKNOWLEDGMENTS

We wish to express our appreciation to the following who so kindly provided assistance in the preparation of this brief.

The Oldman River Regional Planning Commission

The Department of Lands and Forests

The Officers of the Bow Forest District

The Officers of the Crowsnest Forest District

The Members and Staff of the Environment Conservation Authority

## APPENDIX I

### Procedures Followed in Exploring and Developing

#### A Coal Property

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## PROCEDURES FOLLOWED IN EXPLORING AND DEVELOPING A COAL PROPERTY

### General

The various coal properties held by CanPac in the Eastern Slopes have been discussed in varying detail. We would now like to describe some of the aspects of coal exploration and mining, their effect on the surface, and some of our policies in this regard.

### Type of Coal

Before going any further it should be emphasized that all of the coals contained in the properties under discussion are of the coking variety, and should not be confused with the non-coking coals of the prairies.

Coking coals, by definition, are coals which when heated in the absence of air at progressively higher temperatures, pass through a transient plastic stage in which they successively soften, swell and resolidify into a coherent cellular coke. While coke has several uses, its major function is to act as a reducing agent to remove oxygen from iron ores in the production of pig iron which, in turn, is made into steel. The relative value of coking coal is judged by the quality of coke it makes, either by itself, or when blended with other coking coals.

### Exploration and Development Sequence

The general sequence of events that is followed in establishing a coal mining operation is:

1. Basic geological research over regional areas to establish whether coal-bearing horizons may exist. This work normally includes photogeological studies.
2. Initial field work in pre-selected areas, consisting of surface geological mapping, topographical mapping, and trenching to expose coal seams enabling sampling for a preliminary indication of coal quality, and also giving a very general idea of the location and possible extent of the coal seams.
3. If step 2 indicates favourable results, then it is necessary to establish the amount of coal present in the potential field, define the structure and obtain samples at depth from each individual seam for chemical analysis. This is accomplished by widely spaced drill holes.
4. Provided the foregoing continues to yield encouraging results, a more detailed drilling program is required. At the same time

bulk samples are taken by means of driving underground entries (adits) into the coal seams. This is to obtain samples of the coal at sufficient distance from the surface to be free from weathering effects. These samples are subjected to exhaustive tests, the results of which are required for coal quality determinations and for the design of the preparation plant.

5. After assessing the results of the foregoing work, and still assuming everything is favorable, there then follow feasibility studies including detailed mine planning, design of the preparation plant, reclamation and environmental studies, planning for the ancillary services such as housing for the employees, railway, power supplies etc., and an economic appraisal of the overall development.
6. After a market has been obtained, the actual construction of facilities and the development of the mine is commenced.

How long does all this take?

From the initial stages of step one until a mine is in continuous production depends on many factors, and always involves many years. Allowing two years for the exploration program and three years for feasibility studies, construction and equipment purchase, an absolute minimum of five years is required.

In most cases the time span will be much greater. Some properties are more complicated geologically and require much more exploration work. Perhaps the market is not in a position to accept the product on a long-term basis, or the political and economic climate is not right to warrant the risk in developing a new mine. All this adds to the time factor, and it is possible to have a period in excess of ten years from the initial research work until a mine is in production. However, if one considers the amount of money involved, that the development is on a long-term basis, and that such a development has considerable effect on the area in which it is located, then there is certainly justification in slow, careful planning.

## METHODS OF COAL MINING

Essentially, there are two basic methods of mining coal, namely, underground and surface. Generally speaking, of the two methods surface mining is more economical. In addition, surface mining is more efficient than underground mining in that most of the coal is recovered, and from the workers standpoint, it is much safer. The primary disadvantage is that it has a more noticeable, although



Loading of overburden.



Ford 75 cubic yard dragline for use in mining and reclamation.

temporary, effect on the surface before reclamation. Surface mining normally requires a much heavier capital investment during the initial stage of development. It is important to note that very little of the known coal reserves in the eastern slopes of Alberta are amenable to surface mining.

Underground mining is exactly as stated, the mining of coal under the surface of the earth. In underground mining, coal is recovered that cannot be mined by surface methods because of depth. This form of mining creates very little surface disturbance. Its disadvantages are that it is more costly than surface mining and a portion of the coal seam must be left behind to support the roof while mining is taking place. There are various methods of underground mining and new techniques are continually being developed to improve recovery, increase safety and lower costs.

### THE COAL PREPARATION PLANT

The raw coal extracted from the mine enters what is known as the preparation plant, or, as the name implies, a plant designed to prepare the coal for market. Such a process includes sizing, washing for the removal of ash and other impurities, and a drying process.

Water pollution from plant effluent is prevented by a closed circuit tailings disposal system employing an impervious impoundment into which the tailings are pumped, with the clarified water being recirculated to the preparation plant. Thus, all process water remains in a closed circuit.

the Fording Preparation Plant.



## APPENDIX II

### Environmental Considerations in Exploration and Development

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Diamond Drill Operating on the Isolation Property.

## THE ENVIRONMENTAL PROGRAM IN RELATION TO EXPLORATION

Our conservation practices commence from the very start of any field operation, and the procedures used are continually being reviewed and improved. There is no question that the amount of surface disturbance created in a given coal mining operation is considerably less than it was ten years ago and, hopefully, will continue to be less in the future.

Let us now consider the details of conducting an exploration program and the use our environmental program is we proceed.

Firstly, prior to any work being commenced in the field we are required to submit to the Provincial Government a detailed map showing all of the proposed road locations, drill sites, adit sites, and trenches which we intend to construct during the season. This plan is examined by a number of governmental departments and must have unanimous consent of all concerned prior to the company receiving approval to commence its exploration activity. Upon the plan being approved by the government, it is expected that during the actual construction of any of the exploration facilities we will not vary from the locations shown on the plan by more than 50 feet, and if changes are necessary, a revised program must be submitted and approved before construction commences. To ensure accuracy in the location of surface facilities a survey crew is maintained on the property at all times.

Next, the approved locations must be staked out on the ground and checked by an officer of the Department of Lands and Forests before actual construction can begin. No disturbance of the surface is allowed without first having the approval of the Department.

### Drilling

In order to test the coal beneath the surface and to obtain samples for quality determination, it is necessary to carry out a drilling program. The number of drill holes required is dependent upon the complexity of the geology, and these may vary in depth up to 1,000 feet. CanPac prefers to use diamond drills in that they provide a continuous core and require a smaller drill site. In many cases our drill sites are only a widening of the access road. When the drill hole is completed, the hole is sealed off, and the site is back-filled to conform with the original slope of the hillside, seeded to grass, and fertilized.

### Trenching

Coal seams are usually covered by a mantle of overburden.

Therefore, in the early stages of exploration, it is necessary to expose the seams to determine their thickness. In cases of shallow overburden, this is accomplished by hand digging a trench two to three feet wide, three to four feet deep and of varying lengths. If the overburden is in excess of four feet it is better to do trenching with mechanical equipment. In the mid-nineteen sixties this was normally done with a bulldozer, but it was felt that this was creating too much disturbance. We now use a cat-mounted backhoe. The trench is still only two feet wide but may be dug to a greater depth. When all the necessary information has been obtained, the trench is filled, cross-ditched to prevent erosion, seeded to grass and fertilized.

#### **Adits**

Should the results of the diamond drilling, trenching and geological mapping prove favourable, it is necessary to obtain large samples of unweathered coal for testing purposes. To do this we drive an entry underground in the coal seam, approximately 150 to 200 feet in length. Several tons of coal are removed and sent to laboratories. While driving the adits, a pit is constructed at the portal (entry of the adit) for disposal of the coal that is mined, but not used for test purposes. This pit also catches any ground waters that may seep through the adit, and prevents them from entering the water courses. The pit is later covered with soil. When the sample has been obtained, the adit site is restored as nearly as possible to its original gradient, seeded to grass and fertilized.

Reference was made earlier to the handling of ground water from underground operations. Far too many assumptions have been made in the past, using eastern U.S. coals as an example of acid discharges from minewater. We would like to emphasize that Western Canadian coal is not only extremely low in sulphur (0.5 percent or less) but also the sulphur present is in the form of relatively insoluble organic compounds which, unlike pyritic sulphur, do not give rise to acid water.

#### **Road Construction**

To provide access for equipment and personnel to work sites it is necessary, of course, to provide roads. Once again these roads are carefully laid out, not only to conform with the requirements of the Government, but to also meet our own standards. For instance, no road is constructed at a gradient in excess of 10% and preferably less than 8%. Roads are laid out to service the maximum number of drill sites and adit locations, thus keeping construction to a minimum. CanPac now uses steel culverts exclusively throughout its operations. These are installed at each creek crossing or water course regardless of size. Any tributary roads for which no further use can



Cross ditching is designed to prevent soil erosion by directing surface runoff from the road into vegetated areas.



be foreseen are reclaimed by pulling the soil back onto the road and cross ditching as shown in the accompanying pictures.

During the construction of roads and other related facilities it is necessary to remove the tree-cover. As this is not normally merchantable timber we must dispose of it in such a way that it is not an eyesore, and at the same time does not present a fire hazard. Wherever possible, this material is buried in the road bed. A crew is maintained on the job whose function it is to saw all logs into six foot lengths and remove the branches from the trunk. This is to ensure the timber will lie flat on the ground, look neater, and not present a fire hazard.

In the course of our program various locations are selected throughout the property for basic research in reclamation. These sites are located at various elevations, with a variety of conditions e.g.: north facing slopes, south facing slopes, different types of soil and rock and various gradients. These sites are seeded to grass at different rates and with various applications of fertilizer. This enables us to observe the growth and survival of the grass. Facilities not requiring further use are reclaimed as soon as possible, thus providing additional test areas.

In reclaiming drill sites, adit sites and roadways the material is pulled back onto the site or road to achieve as near as possible the original slope of the hillside. At one time we smoothed the surface as though preparing a lawn for seeding. This proved unsatisfactory in that our percentage catch was almost nil. After investigating the causes of this poor germination we changed our approach and now leave the surface in a rough unfinished state. This provides shelter for the seeds and also acts as a catchment basin for rainwater, resulting in a greatly increased growth rate with a superior root system. Periodic checks are made on these test areas throughout the year. This information is extremely useful in the planning of the reclamation program should the property become a producing mine. Considerable advice and assistance is provided by the Alberta Forest Service who are most knowledgeable in the types of grass mixtures and fertilizer applications necessary in various areas. Their assistance in this regard is greatly appreciated.

Mention was made that the exploration phase of an operation may extend over many years. We do not normally work throughout the entire year so there are extended periods of time when the existing road network is not in use. Government policy requires these roads to be blocked off at their points of entry at the end of each field season. The prime reason for this is erosion control. If traffic is permitted on the road during spring breakup the road becomes rutted resulting in

erosion. When activities cease in the fall, we cross ditch all of the roads as a further precaution against soil erosion. Although the roads are blocked, there is no barricade that prevents circumvention by all-terrain vehicles, which then nullifies erosion control procedures.

Should for any reason development not proceed, we are still required to reclaim all surface disturbances. This important fact is not generally realized and represents a substantial obligation on our part. This is especially so when one considers that it costs a minimum of twice as much to reclaim a road as it does to construct it. Few others who make use of the Forest Reserve commit themselves to such an extent.

## THE ENVIRONMENTAL PROGRAM IN RELATION TO COAL MINING

Having discussed at some length our methods of exploration and the related environmental considerations, let us now look at the development of a mine, in the same context.

In order to develop a mine in Alberta, permission must be obtained from the Provincial Government. In addition to all the technical information required, one of the more important pieces of data to be presented is a detailed plan of the environmental safeguards including a reclamation plan.

The design of a mine and its related reclamation program, both complicated engineering tasks, must be carried out simultaneously.

There is no question that a surface mine creates areas that are unsightly, not unlike highway construction, however it must be remembered that this is temporary in nature and will eventually be reclaimed. Considerable information on rock characteristics, slope stabilities, bearing strengths, and drainage patterns all play a vital part in mine planning. The overburden must be placed in such a manner that it is readily available for use in reclamation. A prerequisite of any mining plan particularly in mountainous regions is the designing of systems for the control of ground water and spring run-off. The initial rock taken from the pit must be placed outside pit limits in an approved pre-selected area. These spoil piles and the pits must have adequate water control systems in and around the periphery to prevent any possible siltation of neighbouring streams.

Our approach to mine reclamation is based on the concept of recreating, by progressive revegetation, an environment equal in

quality to, and ecologically compatible with, the pre-mining environment. The reclamation program at Fording Coal in southern British Columbia is an example of this principle. There, a reclamation research project began simultaneously with the decision to develop the mine. The initial stage was to conduct a base-line survey to define the ecology of the pre-mining environment. Investigations were carried out in conjunction with the B.C. Research Council into native vegetation, growth rates, climatic and soil conditions; wildlife including big game and its utilization of grassland; fish, fish food organisms; and stream quality.

The suitability of mine waste material as a growing medium and the selection of plant species suitable for mine reclamation were determined by a program of laboratory and field testing.

Samples of overburden and coal were collected and seeded with various species of grasses and legumes which were then grown under controlled laboratory conditions. Varying rates and analysis of fertilizers were applied to determine soil conditioning requirements. Eventually, the most promising species were determined and planted in on-site test plots near the Fording mining and plant areas which range in elevation from 5,000 to 7,500 feet above sea level.

Studies of the test plots further indicate those plant species with the best survival and growth rates under climatic conditions pertaining to the different elevations.

Field testing of these species will continue on waste piles, other disturbed areas and in the tailings pond and, as mining progresses, reclamation of these areas will take place. Eventually, when the area has been mined out, reclamation will be completed.

Testing has also continued on methods of seeding and reforestation. Hydro-seeding has been successful in some areas such as the banks along haul roads. By this method, seed, fertilizer and mulch are sprayed in a slurry form onto the banks. The mulch provides the initial growth medium, after which the plants become established, often on bare gravel or crushed rock.

In the selection of plant species, consideration is given to their compatibility in appearance and use with the surrounding environment, although domestic grasses and legumes appear to fare better than native species. For reforestation purposes, however, seeds are collected from adjacent native growth.

One can readily see the effort and work required to plan an



Various plant species growing in mine waste material.



Hydroseeding backslope of haulage road.

effective reclamation program. The matter is not taken lightly in our firm. Every reasonable effort is made to preserve the surface and maintain the quality of the environment. Even the preparation plant has environmental protection devices built into the system which meet rigid clean air standards.

It should also be mentioned that in applying for our permit to develop the Fording operation, in addition to mining and reclamation plans, a plan for the termination of the project had also to be approved by the Government. A report on the reclamation program must be submitted to the Government each year presenting results of all test work. The information gained by the Governments from localities such as Fording serves not only to rehabilitate that particular area but is also used in other areas of the Province not necessarily affected by mining but where it is desired to improve the vegetation.

During the pre-production phase at Fording the plans were discussed in detail with the Forestry and Fish and Wildlife Branches who are also kept closely informed on the progress of the environmental program. Further details of the environmental research being conducted at the Fording mine are described in Appendix III.

After many years of operation when the available coal has all been mined, the mine must close down. During the life of the mine reclamation proceeds on a scheduled basis. Vegetation will have been established except for the last few years of operation due to the time lag between mining and successful reclamation. However this would be done prior to the equipment being removed from the site. All of the physical facilities would be dismantled and removed, however, reclamation work must continue under the program originally approved by the Provincial Government. Reclamation certificates would be issued only after results are judged satisfactory.

These mined out areas will have a potential for many uses from recreational developments through to wildlife preserves. The surface will be available for use again by other than mining operations.

### APPENDIX III

Fording Coal Limited's Environmental Research Program

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In Appendix II the environmental research and reclamation program being conducted at Fording Coal Limited was discussed in general terms. For reference purposes a more detailed description dealing with the various items of the program follows in chronological order.

### YEAR 1969

In 1969 a study into the effect of fertilizer on yield and quality of Alpine grassland forage was instituted with field plots being established at the 7300 foot elevation. Some twenty-three different fertilizer treatments were under test. At the same time a "base line survey" was designed to define the ecology of the pre-mining environment of the Fording River Valley.



Test plot at 7,300 foot elevation.

### YEAR 1970

During 1970 the following investigations and research were undertaken:

Characterization of native vegetation and growing conditions,

Effect of fertilizer on yield and quality of alpine grassland forage, plants,

Suitability of surface mine waste rock as a growth medium for plants,

Effect of climate at several elevations on the ability of domestic grass and legume species to establish and maintain growth,

Seeding and planting techniques,

Pre-mining environment of Fording River Valley including:

- (a) a plant survey of forest and range covers,
- (b) a wildlife survey of big game, fish and fish food organisms, and
- (c) stream quality studies of water and stream bed load and potential for microbiological production.

Alpine grassland survey to identify all plant species throughout the growing season and the utilization by big game.

Bottom organism stream survey.

## YEAR 1971

The program was continued in 1971 as follows:

Characterization of the Fording valley pre-mining environment, Suitability of surface mine waste rock as growth medium for plants,

Selection of plant species suitable for reclamation in the Fording valley including:

(a) adaptability of grass and legume species to Fording valley climatic conditions, and

(b) growth of native tree and shrub species on waste rock.

Field evaluation of reclamation practices and techniques including;

(a) stabilization and erosion control on road embankments,

(b) revegetation of Fording valley areas cleared of vegetation to facilitate plant construction, and

(c) revegetation of surface mine waste rock slopes.

Effect of fertilizer on yield and quality of alpine grassland forage.



Test plot at 5,000 foot elevation.

## YEAR 1972

The 1972 program consisted of the following reclamation research; Natural vegetation, climate and potential use of land adjacent to disturbed areas,

Suitability of mine and mill waste as a growth medium for plants including;

(a) Chemical and physical properties of mine and mill waste, and

(b) Growth chamber evaluation of cultural techniques for improvement of mine and mill waste as a growth medium for plants.

## YEAR 1973

The programs of the former years are being continued.



## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Concerning reseeding and the use of fertilizers, I think it is pretty well understood that fertilizers deplete until there is nothing left of them after three years. When I look at your test plots and so on, they look extremely interesting now. But what is going to happen to them when there is complete depletion of the artificial fertilizers you've added?

MR. LIVINGSTONE:

Well, we have some up, the first slide I showed you, the combination drill site and adit site and everything like that. It seems to be doing well.

We heard this. A fellow came up and said these things only last three years and then your reclamation is all shot. But I think you have to remember that one of our associated companies, Cominco, is the father of probably the most successful reclamation projects in Canada, if not in the world. Some cases may need a little more fertilization. We don't know about the future. From what we have seen so far it seems to be holding up in the Panther River area. We have had about five years on this now.

MR. KINISKY:

You're apparently counting on vegetation to restore the slopes to some stability. You also mentioned that this becomes prime grazing land for animals. Of course, with animals walking over, the slopes tend to go back an unstable condition again. What sort of actions can you take to prevent this?

MR. LIVINGSTONE:

Well, first of all some of the slopes you've seen on the sides of a road were just test plots to see what kind of catch we would get. When our roads are finished, if they are not going to be used then the ground is brought up so there isn't that steep slope. In the areas I've mentioned, on one we had reclaimed the road into the drill site and pulled the dirt back up to the proper slope; the same with the adit site where I showed them pulling the dirt back up.

We put barriers at the end of our roads as required by the forestry group. The one problem we're having is with people with four-wheel drive vehicles and snowmobiles who can circumvent these barriers. They are actually doing more damage than anything else.

MR. KINISKY:

The property you now have under lease lies between the Livingstone River and the upper reaches of the Oldman. Under the Canada Land Inventory, both streams are rated number one as far as trout production is concerned. There are only three such rivers in all the province of Alberta. Are you really and truly confident that you can carry out your mining operation without degrading the trout-carrying capacities of these rivers?

MR. LIVINGSTONE:

Yes, I think there are results in Fording Coal. This is an impervious dam.

If you don't make your dam impervious you pay for it anyway because leakage through the dam soon develops a bigger hole like the old thumb in the Dutch dike type of thing. So you must make it impervious.

At the Fording Coal dam, maybe I should have pointed out that the river runs right by that dam. In fact, they changed the course of the river to do this. So they have had no problem at all on that.

MR. KINISKY:

We have seen from the presentation by the Oldman River Regional Planning Commission that in fact the summer run-off is about 35 times as high as what's happening in January, which means that the water supplies at that time are quite depleted. There is no doubt that you're going to require a fair amount of water to carry on your operation. Where is this water going to come from during the winter months?

MR. LIVINGSTONE:

I don't know. We haven't gone that far. We don't use that much because we recirculate it. The surface water which goes out in the coal is actually all we lose. In fact, at the Fording Coal property all the water they use is obtained from a well. They stay completely away from the river. It is a minimal amount, make-up water is all you're talking about.

MR. KINISKY:

What is the elevation of the proposed mine sites?

MR. LIVINGSTONE:

The one in the centre of the picture here is up to 8,000 feet, some at 7,000 feet. Dick, do you know the elevation of the valley? We get so many of these elevations that I don't recall them.

MR. MARSHALL: [From the Floor]

Dick Marshall, CanPac Minerals. The elevation of the Oldman River at our campsite was 5,400 feet.

MR. LIVINGSTONE:

So they range from 5,400 feet up to about 7,000 to 8,000 feet.

MR. KINISKY:

I noticed another thing in your presentation that I have some trouble with and that is the use of steel culverts to take care of some of these watercourses. It has been my information from fish biologists that, generally speaking, these have not been too satisfactory for continued use for the allowance of fish migration. It seems there is some difference of opinion there.

MR. LIVINGSTONE:

Well, first of all we put them in at the insistence of the forestry people and the fish people rather than a substitute or upgrading bush culverts so that they would come out. The streams we're talking about are not the type where you have fish migration. You're talking about culverts of a maximum of 36 inches. Most of them are 18 or 24 inches. This isn't a stream where fish migrate at all.

MR. KINISKY:

We have seen some instances where they have frozen up and buckled over. The water flow still continued but they were impossible for fish to pass.

MR. LIVINGSTONE:

Our problem is that we put them in by the dozen and two months later we can't find any water that should be running through them. In the area up there we've had no problem.

I can see this situation; if you were talking of putting it on a major watercourse that ran year-round it would be something different. But we haven't got this. A lot of these are on exploration roads and when the road is finished we just pick up the culvert and leave the stream in good shape.

MR. KINISKY:

What is the longest time you feel some of your mining operations will be left open and unrepaired? You're talking about temporary disturbances. Is there some definition of "temporary"?

MR. LIVINGSTONE:

Well, we look realistically at this thing. It depends of course on the area. Sometimes you will be able to reclaim within a year when you're getting to the end of the pit, or maybe even start reclamation the next day. You may have an area open maybe three or four years. Sometimes, for instance, you have a truck and shovel situation, which we will at Isolation Ridge. As we proceed we will be dumping the old material into the pit we just finished digging and taking the coal out. So we're having almost a continuous replacement of material. In that case probably you're starting to reclaim within a week.

MR. KINISKY:

Some concerns were expressed by the Oldman River Regional Planning Commission about the possibility of a new town being built to respond to the necessities of the property you want to develop. This town might in fact wind up being the third largest community in the Oldman River Regional Planning Commission's jurisdiction. Have you people thought of establishing a town near the mine or perhaps using a computer system to established communities in the Crowsnest?

MR. LIVINGSTONE:

Well, I don't know how to answer this. At the Fording Coal property we almost tossed a coin and said here are the advantages and here are the disadvantages. I was a consultant on that. When I finally left that organization and went on to the new one they were still weighing which was the best way, either to have the Elkford or Sparwood plan. One of the major problems is to balance things. Should we be bussing the kids to school, should we have a school at

Sparwood, or should we have a school and town north of there? This is a real detailed study. The government planning people and their departments are involved before a decision is made. We have looked at it. I really can't give you a clear-cut answer as to which way it will go.

MR. KINISKY:

You're talking about a total disturbance of approximately 1,600 acres concerning this property. How much is going to be disturbed to provide the transportation corridor necessary for the movement of coal?

MR. LIVINGSTONE:

We don't know if that will be by railway or by pipeline. If it is by railway it would be coursed down to join the Crowsnest Pass route and the normal type of railway would be going in there right away. There may be other uses for this railway, we don't know.

We don't know the location. It may come through the gap and out onto the prairie or the foothills.

MR. KINISKY:

We got some pretty interesting information concerning hydraulic mining techniques yesterday. Has your company given any consideration to using this technique and escaping all the problems of surface disturbance?

MR. LIVINGSTONE:

No doubt you were in Kaiser, because you talk about hydraulic mining. Hydraulic mining is going ahead quite fast. Some special conditions are required for hydraulic mining. Kaiser is very fortunate. You need an upslope of about 8 degrees, between 6 and 9 degrees. They have the ideal situations for that. On our Fording Coal property we have a nice incline which I maintain would make a good hydraulic mining area for underground work.

In our area here I'm quite positive that we haven't a hydraulic mining situation. You must remember that when you go into hydraulic mining you're into sizable amounts of water. But there may be some areas up there, if we find the right slope. Kaiser is lucky that they have the right slope.

MR. DOWLING:

I want to ask you what may appear an obvious question. Is the development of this site anticipated by CanPac Minerals Limited to be a profitable operation?

MR. LIVINGSTONE:

I don't think we would be going into it if it weren't. Everybody says they're a non-profit organization. So are we. The only difference is that we give our profits to our shareholders, who are mostly Canadian. The profits go to developing the country. We wouldn't get capital to go into it unless it was considered a profitable operation. I think it is an essential operation for our energy situation.

MR. DOWLING:

Has the company at this time received orders for coal that might be extracted at this site?

MR. LIVINGSTONE:

We haven't any definite orders. We have had people requesting the information. We've sent out samples. We know that a major deficiency in coking coal is developing.

Someone asked yesterday if this was going to be exported. I think we should point out that Canadian steel companies are importing all their coking coal from the United States now. When the United States runs short I'm sure that one of the first cut-offs will be the Canadian steel companies. They'll be turning to western Canada to pick up their coking coal.

MR. DOWLING:

Is any of your existing customers pressing at the present time for a new source of supply?

MR. LIVINGSTONE:

No, because Fording Coal has just come into production. We're just getting up to capacity there. They may expand that a little bit.

People very seldom have contracts at this stage of the game. One of the first things you have to do with coking coal properties is to show in great detail that you have the quality of coal needed. They blend it a certain way. You have to prove that your seams are correlated. You must give very detailed information. This is one of the reasons you have to do so much exploration work for coking coal. You have to prove it up in detail. For instance, at Fording Coal, after we had it proven in great detail it was three or four months before we had a contract.

MR. DOWLING:

At the present time you are not under pressure to develop this site to meet commitments to customers?

MR. LIVINGSTONE:

No. We see this developing in the normal procedure with proper planning, proper consultation with the planning people, the town preparation and everything.

MR. DOWLING:

Will you be required to file an impact statement with respect to your operation, as opposed to the environment, before the development takes place?

MR. LIVINGSTONE:

I'm not sure. Under the rule now we must provide all this information.

MR. DOWLING:

You have carefully listed four benefits in your brochure. Have you any comments on the 'disbenefits' that might arise from the development of the mine?

MR. LIVINGSTONE:

Well, I think we have to be realistic. There will be a certain amount of disruption in that 1,600 acres, where we just say that the benefits outweigh the others so much. When we got the book A Choice of Land Use Alternatives I looked at it and thought well, we really should write another book called Land of Choice Alternatives. This is what we have.

Not many countries have a choice of minerals and tourism. I think we can have the best of both worlds. For us to leave this resource or talent buried now is no more acceptable than it was 2,000 years ago, when the parable of the talents was given.

We've got good resources. We can mine them. We can have tourism and everything else in that area. I think it is best for the Canadian public that we do so and at the same time protect the environment.

MR. DOWLING:

Is there any possibility of moving the coal away from the minesite by road rather than by rail or pipeline?

MR. LIVINGSTONE:

Yes, I guess you can but you're getting a pretty long haul there. I know they're moving it down from Vicary Creek. You would have to put in special roads. You have bigger trucks and so on. I would say until you made a real study of it you couldn't make a decision. In the case of Fording Coal they just decided that the best thing to do was put in a railway. They have done so and it is working.

MR. DOWLING:

If you moved it by road it would be obvious that the coal would have to go along what is now known as the Kananaskis Highway. Would you consider this an area of conflict with recreational traffic on that road?

MR. LIVINGSTONE:

I would have to say it would be an inconvenience. When we went up there last year it was so dusty that many of the tourists were saying they were staying away from it. On that basis I would say it would be.

However, these trucks are few and far between. It would be the equivalent of having some more trucks on the road. But there is no doubt that it would be an inconvenience. This is one of the big factors you would take into account when considering a railway.

MR. DOWLING:

The movement of coal by truck we have witnessed has been by some rather sizable vehicles which I presume are economical units. It is obvious that you haven't made the decision yet as to how you would transport this. But it seems that economical trucks for moving large

volumes of coal are the 100 and 200 ton capacity units. Would you like to comment on that?

MR. LIVINGSTONE:

We wouldn't want to move a 100 or 200 ton unit up and down the Kananaskis Highway. I don't think it is built for that. The haulage roads that you see heavy trucks travelling on are really well-built with terrific bases. The Kananaskis Highway hasn't that base. For us to run out there and say the Kananaskis Highway is suitable for 100 ton trucks would not be right.

MR. DOWLING:

My next question concerns the railway. You mentioned that it would be a suitable choice to bring coal from the site via railway through the gap. I presume you are speaking here of the Livingstone Gap?

MR. LIVINGSTONE:

Well, we travel up and down there through the gap. We have simply said, here's a gap through the mountain. It is the obvious place, the same as it is an obvious place to put a road. It also is an obvious place to get a low grade rail situation. There hasn't been a decision. I wouldn't be out there buying the land on each side of the gap thinking there was going to be a railway through there, because it will probably go somewhere else.

MR. DOWLING:

You're aware that in its narrowest portions the gap is probably not more than 100 yards wide?

MR. LIVINGSTONE:

Well, we looked at it. You can put a railway through there. If nothing else, south of the road you can put a tunnel through. We looked at it, at least I did, each time we went by. Or you can take a slice off that mountain, widen the gap another 20 feet or so and have a railway there without any problem.

MR. DOWLING:

Are you aware that large herds of bighorn sheep and elk travel between their winter range in the Porcupine Hills and their summer range high in the valley, and that their only route across the range is through that gap?

MR. LIVINGSTONE:

Well, maybe we'll have to put the railway down the other way and let the sheep have the gap. I don't want to be facetious but really these are things that we haven't considered. I'm in the coal and coke testing business, not in the railway location business. For me to start speaking in this area would be inappropriate, I have no expertise at all.

MR. DOWLING:

One of the great concerns of the public is the large number of roads cut on open mountain sides in the process of development exploration, trying to find the coal seams. What technological development, if any, is taking place at the present time to find your

proper coal deposits in precise locations, so as to minimize surface disturbance?

MR. LIVINGSTONE:

Well, let's take the Fording Coal property. The first thing we did was go over the geological maps. We look for the Kootenay formation. Right away you can narrow down the area. Then we took out a helicopter and looked over the place, confirming where the Kootenay formation was. From the geological maps and their sections, you can tell where you should find coal seams.

The two biggest coal seams at Fording Coal - we found one coal seam and we said, according to our statistics the other one should be down some 250 feet. So we took a barometer, went down 250 feet, dug a hole there and found the coal. We don't just go up and down the mountain trying to find a coal seam. We first went in there on the existing road. The four of us climbed the mountain and from there we outlined many of the seams as we went up. We went back as far as about 1911 or 1918 in all the reports to check. We actually found some of the pits that were dug back in about 1911 or 1918 and started from there.

I think people get the idea that we can go in and tear up the countryside, then walk away and leave it. But every time we run a bulldozer 100 feet on a mountain area we say to ourselves, there is 100 feet of area that we have to repair, reseed, and fertilize. It is going to cost us more to do that than it did to run the bulldozer there in the first place. So you don't run around indiscriminately tearing up the country. You make sure you do an absolute minimum because you know it is going to cost. For every foot you disturb it will cost twice as much to reclaim.

MR. DOWLING:

Are methods being developed by way of aerial photography or more advanced methods that will assist your industry?

MR. LIVINGSTONE:

This is one of the things Skylab is doing now, taking infra-red and various types of photographs. By their readings they can locate areas of mineral deposits. We, of course, use gamma rays, logging holes, and so on, to tell us by electric logging where the coal seams are. We can tell ahead of time how much carbon is present. This gives us a pretty good idea whether or not to go about further exploration. We're using the most advanced techniques we have available.

DR. TROST:

Some 18 months ago the Authority went through long hearings on surface mining. New legislation, under the title of The Land Surface Conservation and Reclamation Act, was passed in the last month of the session and received third reading. The Coal Conservation Act received first reading so it will have to be ratified in the fall session. This will mean that your company will be faced with a good deal of new law and regulation in respect of the operation of the coal mine. Do you feel that you can and will comply with these new regulations and new Acts as they develop?

MR. LIVINGSTONE:

Yes, we certainly will. I think the general impression again is that mining companies see how they can get around these things. CanPac is part of Canadian Pacific, we're part of Canada and we intend to live here. It is our intention to abide by the rules and take care of the country.

I think you'll see from our slides that we're quite proud of our reclamation. We don't know everything about it. It is a relatively new science but we're proud of it and we're prepared to abide by the regulation.

As a result of those hearings you made recommendations. I might compliment you by saying that they're very practical. There is only one I wish you would change a little bit. You said that the shortest time practical should elapse between opening of a surface mine and reclamation and revegetation of the site. Normally this time span should not be permitted to exceed two years. Normally it wouldn't. But I think you should have the proviso in there that the government inspector have the authority to extend this, because there are certain areas where you get into faults in your first pits and stuff like that where two years is too short a time. It is not a matter of the company leaving the thing there or neglecting the job.

Let me give you an example. Sometimes we delay the paving of a street because we know that next year a water main will be going down there, and the taxpayer will be crabbing if we pave it this year and dig it up next year. In the case of mining we know that that should sit for a year so we can finish another cut before we do the reclaiming.

DR. TROST:

Yes, I think that particular time was more directly applicable to mining in the prairies.

MR. LIVINGSTONE:

Again, it depends upon the length of your cut. If you're taking a long narrow swath, say two miles long, then it may be more than two years before you get back and get the second cut over.

DR. TROST:

I'm sure you agree that the less time you leave the thing unreclaimed, the better.

MR. LIVINGSTONE:

Absolutely. But I must say the recommendations were very practical. We appreciate them.

DR. TROST:

You're at the stage now where you have a good feeling for the deposits, say at Isolation. You've explored it, you have a concept of what is there and what these seams look like. How long will it take, particularly in view of the new regulations, to do the planning and the preplanning, including reclamation and so on, before you could consider a development project?

MR. LIVINGSTONE:

First we would have to go out and see the interests of people in this market before we go any further. Once they declare interest then we get right into planning. But there is a lead time, about four or five years on a mine like this. We have to go over the economics again. We don't have to drill any more sites or things like that as a rule but we may go over one or two. We have to go over the economics and say, all right, before we were just talking and it was on paper. Now we're going to put up the dollars. We've got to show people that this is a good investment. Therefore we've got to go back and really do an in-depth study, pricing buildings, pricing draglines, everything.

DR. TROST:

In developing surface mines in the mountains and the foothills our experience and observations throughout North America are that reclamation, particularly preplanning the mining so that reclamation follows naturally, is by no means well-developed. In many cases the conditions vary sharply from location to location. Even after restoration of the materials, reclamation of the surfaces is also a matter in which technology and practice may be somewhat deficient at present. Is there any thought among different companies to work cooperatively to develop this technology and get it in their combined area of expertise?

MR. LIVINGSTONE:

Kaiser is doing its work, Fording is doing its work. I'm sure the people involved in this are comparing notes on it. This isn't a matter of competitive development of a new product or anything. It is a matter of saying, how can we do the best job and still save money. So we simply will be cooperating. We spoke to the provincial Minister of Mines and Minerals at his mines conference. They have a research station which does a lot of work on agriculture. They have many trained people there; we recommended that some of them be utilized in developing reclamation.

I think there is another area. If everybody is serious about this thing and they are, they want to go ahead, then they should say to some of the people doing the research, there is a tax benefit. We want to preserve the country and we want to speed this up. You put money into this area. We have grants for everything else in this land, let's have some grants for moving this ahead. This need not be in the form of money, perhaps we could have research stations assist in this.

DR. TROST:

It is probable that you have expertise on reclamation available within Cominco and other areas of your enterprise that isn't available to other companies. Would you be willing to make the knowledge you might have, or gather, available to other companies without a fuss?

MR. LIVINGSTONE:

I couldn't speak for Cominco but I'm sure they would be quite happy to compare notes, just as Kaiser is.

It's not a matter of saying look what we've got, we're going to keep it quiet and sell it to somebody. After all, we are all in the business of reclaiming land. If we find a species that does well, that fact will become common knowledge, just as it does in the States.

We may as well not fool each other about this idea of having confidential information. It's not confidential. Everybody knows the day after your discovery and they know what is working well for you. There is a feeling of cooperation. It certainly will go ahead. We would have no qualms about sharing information and working with other companies in this area.

MR. MARSHALL:

Unfortunately, I didn't advise Mr. Livingstone that a policy decision was made recently on behalf of Cominco and CanPac Minerals whereby all research data on reclamation techniques is made available to the general public. We are already doing this in British Columbia with Fording Coal. All this information is turned over to the government. We are participating with the research councils in these programs, so it is generally available.

MR. KINISKY:

Earlier I asked you about the disturbances caused by rail transportation and you talked about the possibility of pipelining the coal out. Later you said you didn't have enough water for hydraulic mining, which I guess obviates the pipelining. So we're back to the original question. How much are we going to disturb with the railroad going in?

MR. LIVINGSTONE:

I'd say the normal size of a railway right of way. We haven't gone to the stage of saying this is where the curves have got to be and this is the length of the railway. This comes in the next phase.

For instance, in Fording the next phase was a preliminary rail survey. Before they go ahead, this would be part of the next stage in a feasibility study. You realize that the first stage is to get the coal and coke data. As I think I mentioned yesterday we are still waiting for one or two of our final tests. If you have ever dealt with the steel companies you know they're mighty particular. Coal isn't just coal to them. They want all the details of its characteristics.

MR. KINISKY:

Do you know approximately how many acres of land are required per mile of railroad?

MR. LIVINGSTONE:

No, I really don't. I am out of my field there.

MR. MARSHALL:

Generally speaking a 25 foot right of way is 4 acres per mile. I think normally a railway right of way is wider than 25 feet, more in the order of 50 usable feet. I don't know how much is granted. I can't answer that.

MR. DOWLING:

It is not for the members of the Authority to instruct those giving submissions before us, but rather to question them.

In view of the fact that I brought up the matter of the Livingstone Gap earlier, I have information before me which reveals that 700 to 800 elk use the Livingstone Gap to migrate annually and they rely on that particular passage for their survival. That is just a matter of information. The bighorn sheep do not use the gap. Rather there are several hundred head which are permanently resident west of the gap on Plateau Mountain.

MR. LIVINGSTONE:

If the railway goes through there it will be kind of like the Banff National Park. We will have to go slow and let the elk get off the track while they're going through I think.

Brief submitted by: Mr. R. E. Arlt  
Claresholm Fish and  
Game Association

MR. ARLT:

I do not have a brief here but I submitted one by mail. It was a short one. This was the first opportunity I ever had to write and present a brief. So I really didn't know what it was all about. I have learned quite a bit sitting up there in the seat all day.

I was very interested in the previous speaker from CanPac and his theories on anti-pollution re his coal mining operations. I was only hoping that it was CanPac taking the coal out of Vicary Creek instead of Kaiser.

According to reports and photos that I have seen, the Vicary Creek fish population is entirely depleted. We have seen some maps illustrating this up here.

Our eastern slopes are a very, very small part of Alberta. It's the last and only piece of vegetation we have left which has never fallen to the destruction of the white race. In the olden days, the high country was inhabited by a tribe of people, the Indians. They were nomads, by that I mean they were people who lived under tents. When the campground got a little bit dirty or game was scarce or one thing or another, they packed up like the Arabs and silently stole away to another area. By doing so, they did not destroy the environment. They didn't destroy anything that lived off the land.

When the white race came it took them less than 200 years to destroy the prairies. What they didn't turn under with the plough they overgrazed. What they didn't overgraze they covered with buildings. What they didn't cover with buildings they covered with asphalt. So today we have but very little of our virgin soil left.

We have only a very small part of our original wildlife left, that which could find ways and means of coping with white people. These are the rodent family, certain species of the weasel family and one or two species of the ungulates. This species of ungulate is the white-tail deer. I noticed in the back of this magazine or booklet that we just have a trace of white-tail deer in Alberta. That's how well they can adapt themselves to civilization, as we like to call it. We have more than a trace of white-tail deer in Alberta but we just don't see them because we're not used to hunting that kind of animals.

Now to get back to how the white race has destroyed the environment of our fair country. It still is a fair country. We believe we have to live high on the hog and one thing and another. I have always thought, from the time I was a little kid, why do we have to go so big? Why is the almighty dollar so important to us? The Indian didn't have a high standard of living. We are living much too high. If we allow commercialization and the building up of buildings, this goes all the way from youth hostels to camps and tourist facilities inside our green areas, the first thing we know our green areas are going to be just as bleak as our city streets, our country roads and all the rest of it are today.

Human nature being what it is, if we have one inch we want a mile. I'm speaking for myself. I notice on the board that I represent the Claresholm Fish and Game Association, which I have since 1933. I would like to believe that I have been instrumental in

teaching conservation to our young folk all those years. I'm also an instructor in the hunter training campaign. We teach the kids to take things as nature gave them to us, to use it but not destroy it.

We have destroyed everything that nature made for us out on the prairies. It's true we have replaced it somewhat, according to our ideas of what constitutes a good thing. But still we have taken down the original trees and then replanted trees. We have polluted the waters and then tried to make fresh water. We haven't been able to succeed in that yet.

This leads me to another thing. If we allow tourist accommodations inside the green areas, there goes pollution control on our streams. It was just mentioned here by the man speaking for CanPac. Mr. Dowling asked him what he intended to do with the two main streams coming out of the gap area there and what his proposed mining operation is going to be. I wasn't satisfied with the answer given. It is true that those are the only two main streams coming out. They are the two best fishing streams in the southern part of the province. If we allow those streams to be depleted of fish in any way we have lost something that is our natural heritage. It would make me really sick. It made me sick to see Vicary Creek. I used to fish in that creek when I was a kid.

Getting back to these tourist accommodations I can't see the reasoning of allowing commercialization and summer cottages. I can go for a few service stations back up there, but a real few. I'd have to protest the building of them. The Department of Lands and Forests is tearing out the camp kitchens which they saw fit to build back up in the mountain areas because they say there is too much vandalism. It's costing too much money to keep them in good order. The people using the facilities there are destroying the environment. We are seeing that happen in the park areas down at Waterton Lakes on account of overcrowding. It just makes me wonder what would happen then if we allowed facilities to be built up in the green areas. They couldn't be policed. They wouldn't be policed because they would only be in there for the mighty dollar.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Mr. Arlt, how many people in the Province of Alberta do you think would be ready to give up some of the material things they gain from the money that comes out of resource extraction so that they could, in fact, preserve the character of our foothills region?

MR. ARLT:

That is a fair question. You want my honest opinion, eh? I would say that 50 per cent of the people of Alberta would give up something. I will go a little bit farther than that, over 50 per cent of the people would give up something to be able to go out and see nature as nature built it. As the population increases, I think you would see over 50 per cent. I think you and I both like to go up - look at that, boy. Look at those mountains. Look at that wildlife.

I had a fellow come up from Texas one day. I have a stream running right down between my house and my barn. He said, "Man, look at that living water." I asked, "What do you mean by living water? We have that all over the place. That's a creek, that's not living water." He said, "That's living water. You don't know what it is if you don't have any water. We have to drill 800 feet down to get a well, and our wells are 25 miles apart. There is one here and 25 miles away is another one." And he said "If you get a creek like that, that's living water. Hang on to it. Don't ever destroy it."

MR. KINISKY:

In this province we happen to be in the process of taking our larger cities and making them grow at an unbelievable pace. I don't really know why. We also find that in these very large communities are the people who cry the loudest for additional funds from the government. What do you think about the continued growth of municipal areas and the continued demand for money from the provincial government?

MR. ARLT:

I don't think the provincial government should go along with subsidizing population growth. After all, if I'm going to have a family of six and expect them to grow up, I expect them to do as I did. I didn't have anything. I had help from my dad, yes, but I had to pay cash on the barrel head. I've done it all my life. If there was something I wanted, I had to find the money. I had to work and earn the money so I could buy what I wanted and possess it. I didn't ask anybody for a dime. I still haven't asked anybody for a dime. I think that is the wrong attitude. This easy money thing is for the birds.

MR. DOWLING:

Mr. Arlt, you mentioned in your submitted brief that there was very little virgin soil remaining in the province. Do you in fact know of the location of any virgin soil as it existed prior to the arrival of the white man?

MR. ARLT:

No. I can tell you right now that I do not know of any virgin soil in the same condition today as it was before the white man came.

As I said, it's either been ploughed under or overgrazed. Before the white man came there weren't any cattle in the country. There were no domestic stock. Now we see clean back on the tops of the mountains that sheep and domestic cattle have been allowed to graze and compete for forage with the wild game. That is wrong.

MR. DOWLING:

In your submission you said that you protest the sale, leasing or granting of the use of any Crown lands situated within the eastern slopes to any person or company for the purpose of establishing a domicile, summer cottage, youth hostel, service station or tourist facility of any kind. What sort of facilities do hunters and fishermen require when they are in the backwoods along the eastern slopes?

MR. ABIT:

Tents and campers. Today it's campers, although they still have tents. If you are in a camper you are on wheels and if you are in a tent you live like the Indian did. You are only there for a few days or a week at the most and you carry on. You don't make at established residence in the area. It's when you establish a permanent or semi-permanent residence that you start to pollute the waters and destroy the environment.

MR. DOWLING:

You are suggesting them that the best type of existence for the visitor on the eastern slopes is a nomadic one?

MR. ABIT:

That's right. That's right. The public today, not all of them but a majority of them, say, I'd like to get back out in the woods and rough it. Then when they get out there they cry the blues because they don't have hot and cold running water, they don't have electricity, they don't have this and that. They are not roughing it when they have those kinds of facilities. They have those at home.

156-1



A background presentation made in reference to these proposals  
is included with the Alberta Wilderness Association's presentation  
made in Edmonton.

PRESENTED BY:

Dr. R. P. Pharis  
ALBERTA WILDERNESS ASSOCIATION

**north porcupine**

## NORTH PORCUPINE

Of all the areas proposed for wildlands recreation status, the North Porcupines is most unique. It is the only area that is not actually within the Rockies, being located in the Porcupine Hills to the east of the Front Ranges. Its real qualities lie beyond the fact that it is simply a high quality primitive recreation site. Geologically and floristically it is indeed a special area.

Existing as a unit unto itself and distinct from the foothills, the North Porcupines impress the visitor as a self-contained basin. Standing on the floor of the basin in Trout Creek he can see simultaneously all the topographic and vegetation features of the Porcupine Hills - a microcosm of the foothills environment.

Geologically, the area lies on the west flank of the Alberta syncline, a trough lying parallel to the foothills front. The lithology is simple, as is common in plains areas. Most of the area is underlain by the Porcupine Hills Formation of Paleocene age, consisting largely of grey to brownish horizontally bedded sandstones and interbedded with grey to brown shales.

During the Pleistocene the Porcupines acted as a meeting place for the two great ice masses, the Alpine and the Continental. While the highest points of the hills may never have been glaciated, most of the area was covered twice by ice, once about 60,000 years ago and again about 12,000 years ago. These glaciations gave the Hills their long, low profile.

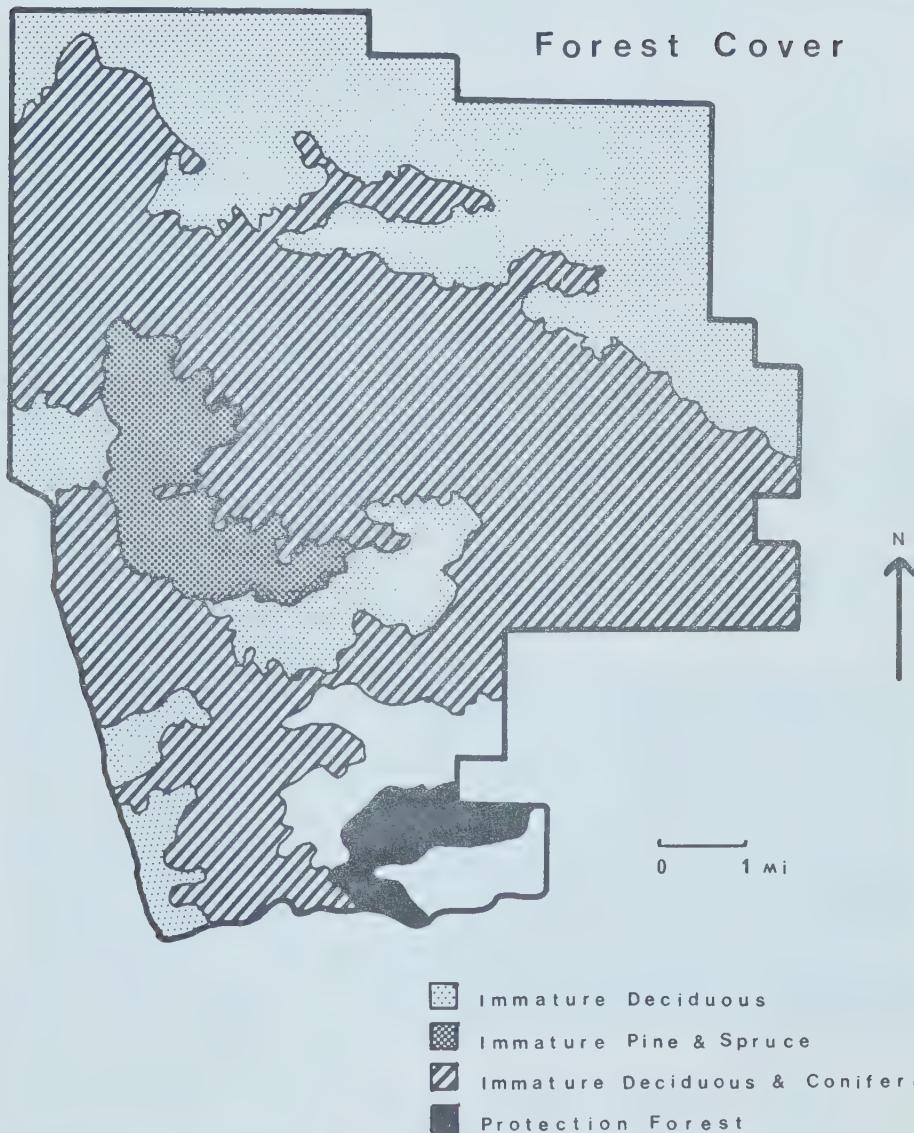
Due to its location between the mountains and the prairies, the North Porcupines is a transition zone for four different vegetation types which intermingle to form a complex mosaic. Nowhere else in Alberta do these vegetation types interrelate in such a small area. They are: 1. The Montane Forest - a forest which stretches along the Rocky Mountains from Arizona and is characterized by interior Douglas-fir and limber pine; 2. The Boreal Forest - typical of central and northern Alberta, composed of white spruce with aspen - poplar interspersed; 3. The Sub-Alpine Forest - the major high country forest of the Rockies, composed chiefly of Engelmann Spruce, lodgepole pine and the occasional alpine fir (described earlier in the vegetation section); 4. Fescue Grassland - the bunch grass vegetation of the western prairies found on dry, sunny slopes.

Due to the moderate climate of the southern foothills, some of the trees in the Porcupines are unique in character. Douglas-fir, located primarily on south-facing slopes, in grassy "open savannah-like" groves, are the oldest trees in the Hills. They grow in excess of 100 feet in height and to diameters of 4 feet, probably the largest trees in the province. Many majestic specimens still exist, having escaped logging.

In shady valleys on tributary streams, large white spruce occur, having managed to escape a succession of fires that regularly swept the North Porcupines.

The forest type and distribution is controlled largely by aspect (i.e., north, west, south, east). Mixed forests (Douglas-fir, lodgepole pine, spruce and aspen) grow on the northerly aspects. Douglas-fir is best developed on high

156-3  
NORTH PORCUPINE



reaches of south-facing slopes where it grows in association with lodgepole pine and aspen. Limber pine prefers rocky, windswept ridges where the environment is too severe for other trees.

Fire, or the lack of it, has played an important role in determining the vegetation pattern of the North Porcupines. Fires on higher slopes have burned out many mature spruce stands. The replacement tree, lodgepole pine, enters after fire. The fact that lodgepole pine forms a significant portion of the forest is evidence to the fact that fire was a common occurrence in this region. Ground fires also helped to maintain the openness of the Douglas-fir savannah. The fire hazard can be severe in the Porcupines because of the dessicating Chinook winds, which are frequent in the area.

Since the Porcupine Hills were incorporated into the Forest Reserve in 1912, fire suppression became the primary land management consideration for the area. Fire suppression has had a marked effect on the vegetation of the Porcupine Hills. Some of the Douglas-fir savannah is closing up with regenerating seedlings or invading aspen. On the grasslands, aspen is expanding its realm and reducing grazing area.

Wildflowers common to the North Porcupines include: yarrow, wild onion, crocus, Indian paintbrush, shooting star, wild strawberry, wild sticky geranium, lupine, locoweed, horse mint, spiraca, Calypso orchids, bunchberry, twinflower, wintergreen, Spring beauty, meadow rue, fireweed, Arnica, fleabanes and asters. In short, a cross-section of prairie, foothills and mountain flowers are to be found.

The North Porcupines has been used by man - be he red or white skinned - for centuries. The Plains Indian, impressed by the tapering silhouette of the hills, bristling against the sky with Douglas-fir and limber pine, named them "Ky-es-Kaghp-ogh-suy-iss" - the Porcupine's tail, from whence their modern name is derived.

Peigan Indians moved to the Hills to escape the harsh winters of the Plains to the east. Here they could also find abundant game, as the animals too used the Hills as a haven, avoiding the more bitter winter weather found elsewhere. Buffalo, elk, antelope and deer used the forests of the Hills for shelter, and the exposed grasses on wind-swept ridges for food. Indians forced the bison and elk to their death over the cliffs of coulees. These buffalo jumps are similar to the better known Smashed-in-Head Jump and Old Woman's Jump found elsewhere on the East Slope. Bones of the slaughtered animals can still be found at the base of many of the jumps in the area. As well, stone fire circles and teepee rings remain, proof of the past Indian activities.

The white man settled in the vicinity of the Hills in the early 1800's and Palliser first crossed and mapped them in 1858. In the 1870's the North Porcupines served as a refuge from the R.C.M.P. for whiskey traders. The traders who made good profits from selling their wares to the Indians, were soon thwarted when the R.C.M.P. set up a post in High River and began patrolling the hills regularly.

Towards the end of the century settlers, attracted by the grass and good

land on the eastern slopes of the region, began grazing the area with cattle. Initially, much of the land was heavily overgrazed. Grazing continues today and may in fact be the most important use of the area. Three grazing allotments exist over the region: West Trout, East Trout and part of Chimney Rock. Here again, properly managed grazing need not be inconsistent with the wildlands recreation area concept.

Trees were first cut in the Hills to provide material for Indian long houses (on newly established reserves) and settler's cabins. Some logging continues to the present day. Although there is little high quality commercial forest, the presence of the large Douglas-fir are of marked interest to the forest industry. However, if it is understood that the North Porcupines' greatest significance lies in its very unique forest cover patterns - especially the old Douglas-fir - it must be recognized that preservation values here exceed current timber resource values.

The North Porcupine Hills have no coal potential. As for oil and gas, the area is extensively covered in leases. However, no actual evidence of potential is available as no wells have yet been drilled. A decision will obviously have to be made as to whether the area has importance to the oil and gas industry, and even if so, whether preservation as a primitive recreation area would take precedence.

The North Porcupines is suitable for year-round primitive recreation use. Topographically, it is gentle enough for cross-country skiing; as well, climatic conditions in winter are neither as harsh as they are on the prairie, nor as rapidly changeable as they are in the Rockies. Ski trips should be made shortly



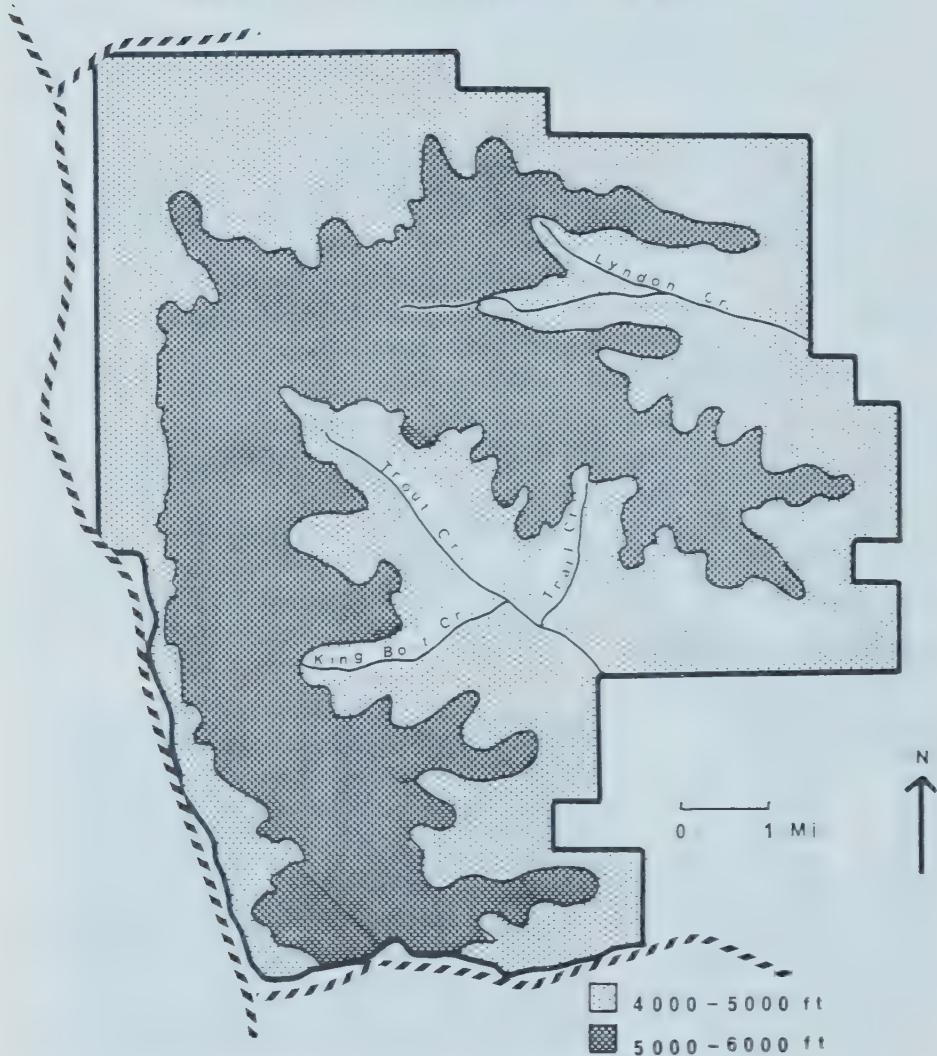
D. Wales



L. Cordes

Winter and summer recreational use of the Porcupine Hills area

## NORTH PORCUPINE



156-7

NORTH PORCUPINE



Oil & Gas Lease

after snowfalls before warm chinook winds have an opportunity to sublime and drift the snow. There are several long, open runs possible - only one being indicated on the recreation map. The grassy east slopes provide fast and exciting downhill runs.

The highly variable vegetation types in the region make the North Porcupine Hills an interesting place in which to hike or ride horseback. Despite the gentle terrain, hikes can be challenging. The best time for hiking is in late spring and early summer, when flowers are plentiful and temperatures are pleasant. Summer hikers will likely find a shortage of water and are advised to carry some with them. As the North Porcupine Hills are often dry at this time of year, travellers should be particularly careful with fires.

Fishing is fair to good in Trout Creek, however the lack of other permanent streams does not make the North Porcupines a really good fishing area.

Deer - mule and white-tail - elk, moose, black bear, lynx, coyotes and the occasional cougar are all present in the North Porcupines. Ruffed and sharptail grouse are common. The complex mosaic of vegetation provides a diversity and abundance of habitat to support a diverse wildlife population. Deer, and a small elk band, use the North Porcupines as a year-round residence. However, the majority of elk migrate into the area in the winter months, leaving it for the mountains to the west in May or June. But, despite the abundance of game, little is actually known at this time regarding actual movements of ungulates.

The North Porcupine Hills is such a different area from the mountainous region of the East Slope that its greatest value probably lies in the fact that it displays a complete gradation, from prairie to foothills, in topography, vegetation and wildlife. For this and its other unique features, the area should most certainly be considered for inclusion in a system of Wildland Recreation Areas.



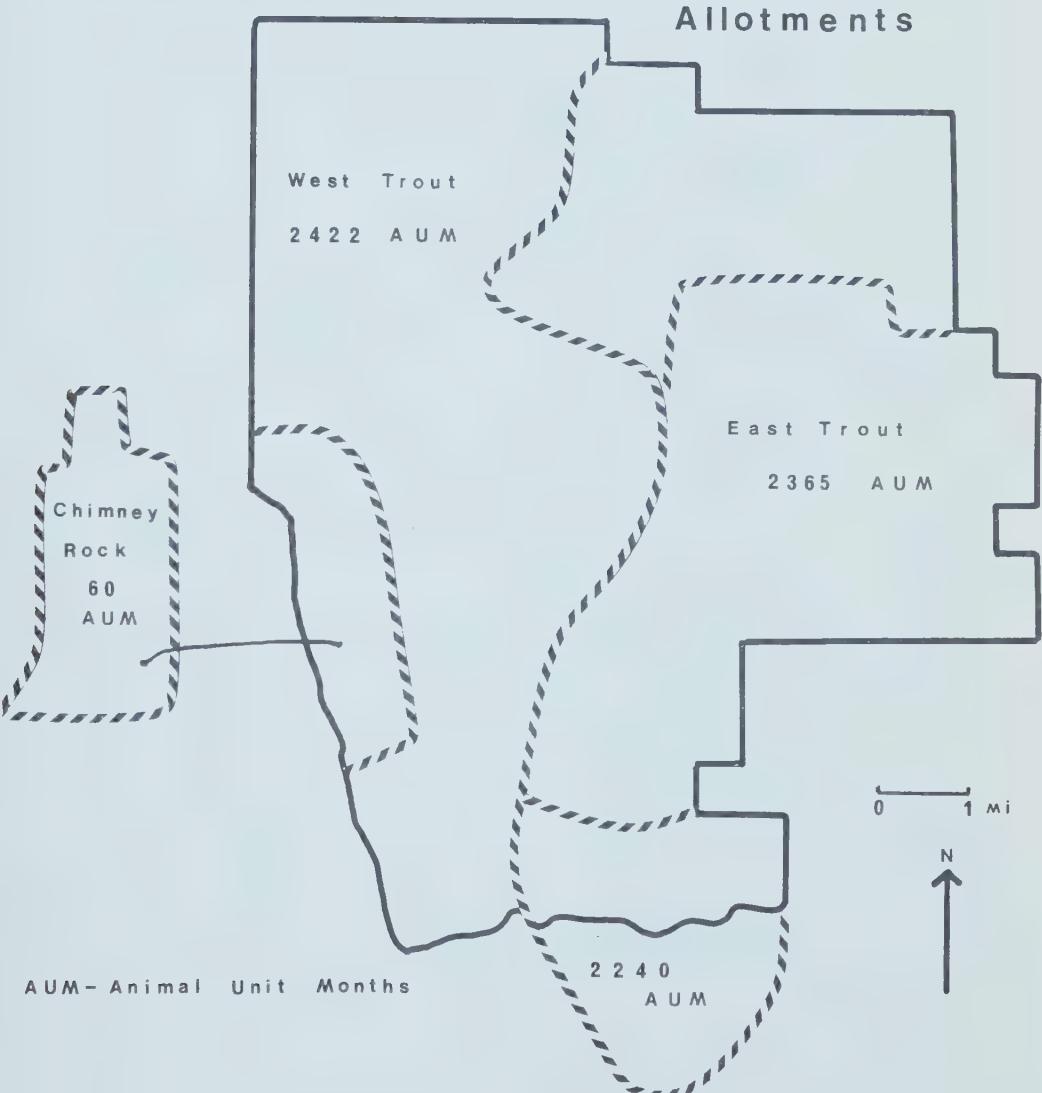
Grasslands on the east slope of The North Porcupines area

L. Cordes

156-9

## NORTH PORCUPINE

### Cattle Grazing Allotments



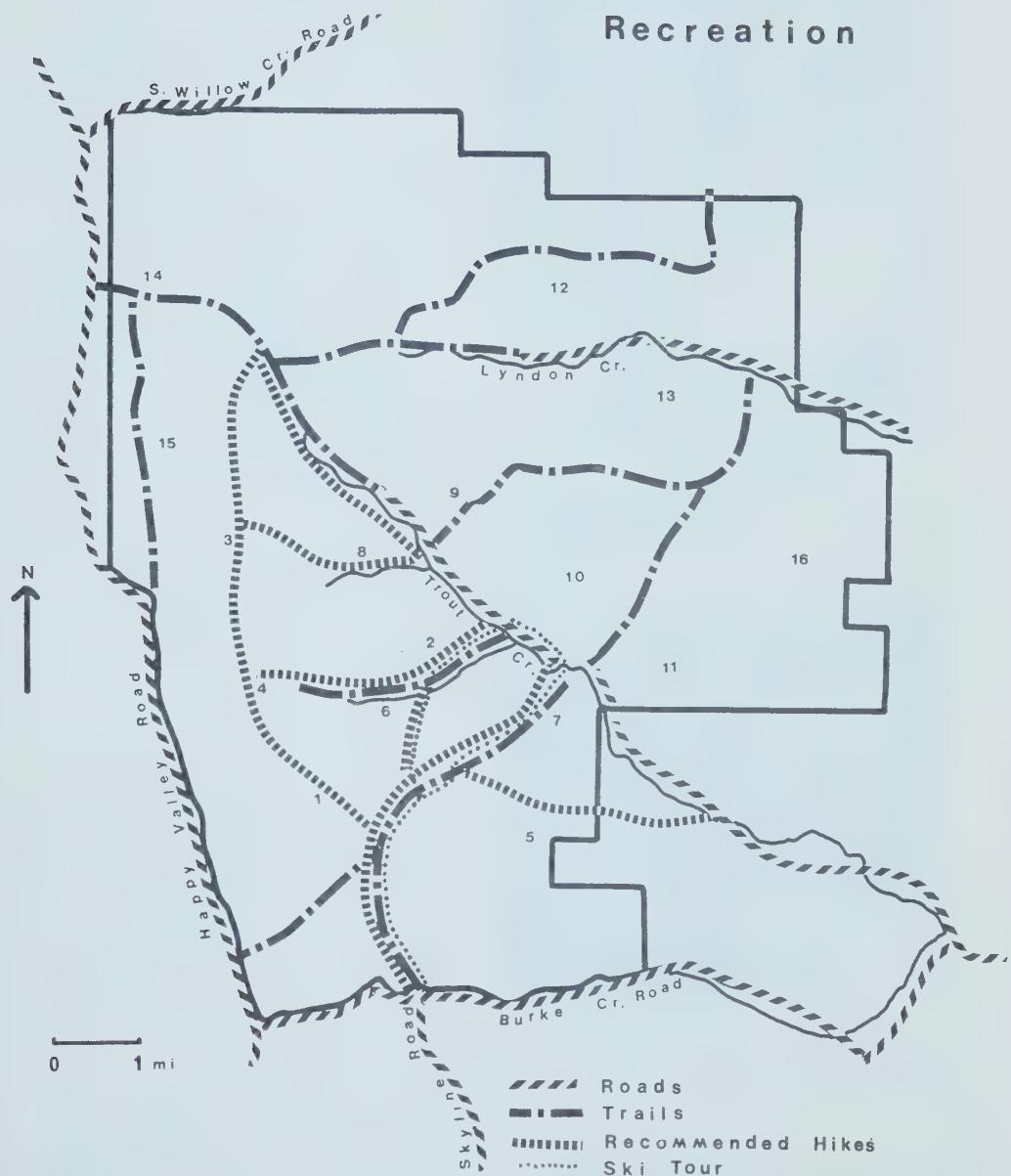
NORTH PORCUPINES

Points of Interest

1. View points from main ridge
2. Unique stand of Douglas-fir
3. Slip-fault escarpment
4. Highest point in N. Porcupine Hills
5. Dry Coulee
6. King Bolt Creek
7. Three Sections Coulee
8. Minor Coulee
9. Pine Coulee
10. Trail Coulee
11. Wager Coulee
12. N. Lyndon Creek
13. Chandler Creek
14. Ward Creek
15. Lanthier Creek
16. Homestead

## NORTH PORCUPINE

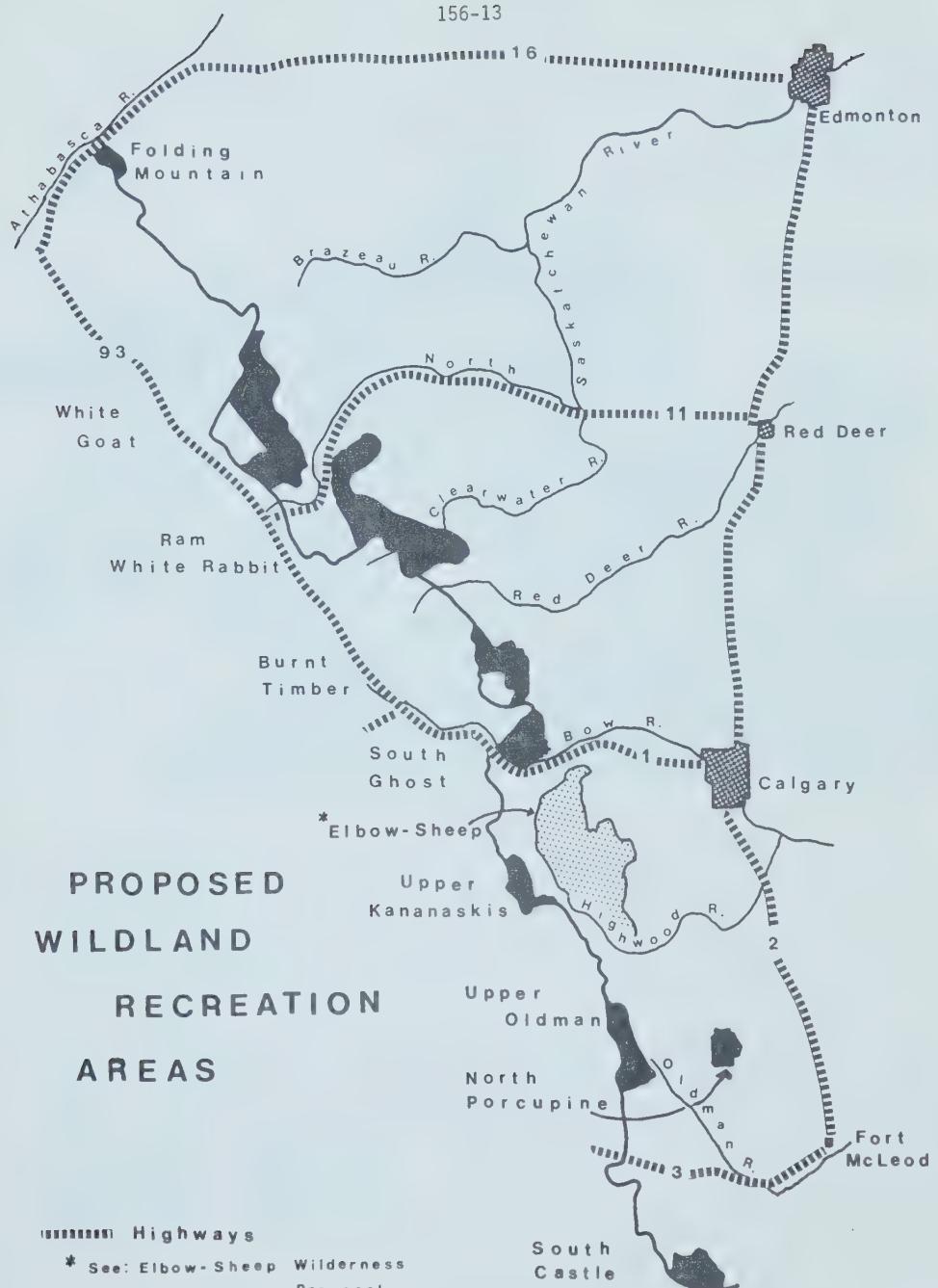
## Recreation



156-12



156-13



Highways

\* See: Elbow-Sheep Wilderness  
Proposal

156-14



**south castle**

## SOUTH CASTLE

Unlike most of the proposed Wildlands Recreation Areas, the South Castle has seen considerable use by man in the past. It is close to the Crowsnest Pass corridor, a major center of human activity in the southern Rockies over the past century. However, much of the disturbance has occurred in past decades, and is less extensive than is common with modern resource extraction. The land is now returning to its natural condition quite rapidly. The South Castle still retains a scenic wild solitude that qualifies it for preservation as a recreational wilderness.

Although no actual archaeological data exist for South Castle, inferences can be made about probable use patterns from the extensive archaeological material gathered in nearby Waterton Lakes National Park.

It appears that early man made use of South Castle, especially the routes leading to the Kootenay Pass (which enters British Columbia) and the north-south Castle River Pass. It is speculated that man may have used the Middle Kootenay Pass as far back as 10,000 years ago. In those times bison provided prehistoric man with abundant food. These animals would likely have grazed the South Castle area from spring to fall moving into the alpine meadows as the season progressed. Thus camps may be buried throughout the region, from valley floors to high level cirques. The potential for gaining important archaeological information is high.

Kootenay Indians are known to have travelled in the South Castle over Castle Pass from Waterton Lakes. The careful traveller might even be able to find old Indian trail blazes and cairns similar to those found in Waterton - marks which might date back 200 to 300 years.

Before the turn of the century, settlers in the Pincher Creek area obtained building logs from the Castle region. The McLaren Lumber Company and the Canadian Pacific Railway were also logging in the vicinity. A major fire swept over the Middle Kootenay Pass in 1936 from B.C. and killed a large amount of mature timber, some of it in the proposed Wildlands Recreation Area. More recently major clear cut operations have been carried out in the Upper West Castle.

Forestry operations in the South Castle have already taken out most of the mature commercial timber. Forest composition maps show that commercial forests are generally limited to valley bottoms and that a large percentage of these forests are presently immature. In the South Castle where the topography is rugged, slopes are often too steep to allow logging operations to continue without severe damage being done to the watershed (i.e., reduced quality, flow stability). To a large extent, forestry in the South Castle is just one of those uses which has more or less "had its day". It is unlikely that setting aside the remaining forest stands of the South Castle would appreciably affect the local forest industry.

Cattle grazing in the South Castle began around the turn of the century. Ranchers used the valley as free range. Regulation and charging for grazing began in 1910. The years of the Second World War brought an increased demand for meat. This increased demand was reflected in the South Castle with additional animals; cattle, horses and sheep being grazed. However, after the war, it became apparent that the wildlife populations, in having to compete with domestic livestock for

forage, were suffering. In 1950, therefore, a decision was made to discontinue sheep and horse grazing. The last sheep permit was discontinued in 1954, the last horse permit in 1956.

Concern for wildlife values has resulted in additional reductions in the size of grazing herds. From 1947 to the present time the number of animals allowed on the range has been cut in half. A fair equilibrium now appears to have been reached between cattle and wildlife needs.

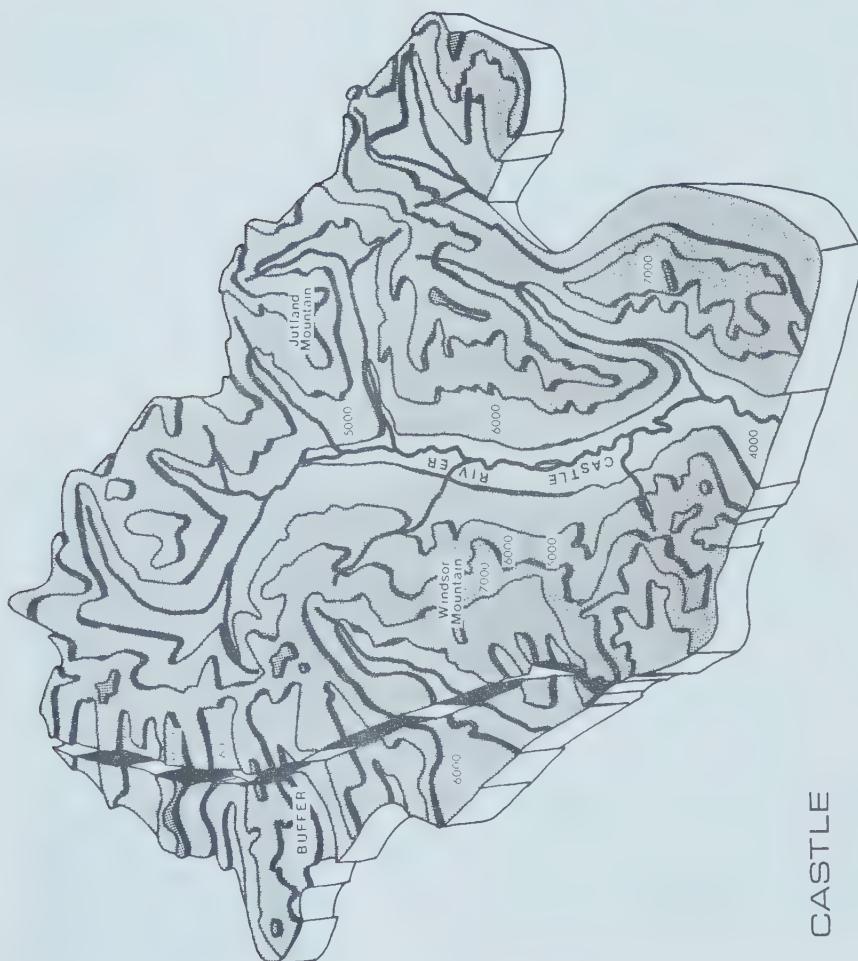
The proposed South Castle Wildlands Recreation Area significantly affects only one grazing allotment (Castle Creek, 2920 animal unit months) where about half of this allotment falls into the Area. As long as cattle are carefully managed, so as not to adversely affect key alpine and winter range areas, grazing use could be considered compatible with wilderness recreation.

Grazing can be compatible  
with Wildland Recreation



W. Michalsky

Most of the area is underlain by Purcell rocks of late Precambrian age. The Purcell rocks are divided into a number of formations based on the dominant rock types, ranging from thick limestones and dolomites to argillites and quartzites. Unlike the drab to buff colours of the younger Paleozoic rocks, the Precambrian rocks are attractively vari-coloured, ranging through shades of red and green to grey and black. In the upper part of the Precambrian Section, a distinctive volcanic flow 300 feet thick is interbedded with the sedimentary rocks.



SOUTH CASTLE

Some of the Mountain peaks are capped by younger Paleozoic rocks, mainly Cambrian to Devonian. These rocks range in composition from quartzites to carbonates. The northern extremity of the area is underlain by much younger sandstones and shales of Upper Cretaceous age.

Structurally, the area is dominated by a large syncline extending north from Glacier National Park. The younger Paleozoic rocks are located approximately along the axis of the syncline. The Lewis thrust fault cuts across the northern extremity of the area, thrusting the old Precambrian rocks over the much younger Upper Cretaceous formations. This contact marks the change from mountainous to foothills terrain.

One of Alberta's early oil wells was drilled in South Castle near the vacant Castle Ranger Station. Another was drilled at West Castle. The entire area and its surroundings has been explored geophysically. To date, no oil or gas has been found in the proposed Wildlands Recreation Area. In fact all active operation seems to occur on the front range to the east, from Carbondale to Waterton Park. This pattern suggests that the geology in South Castle is not likely to be productive for gas and oil. Even so, most of the unit is under reservation, although there are only two small leases in the region. High drilling costs in the rugged terrain are also a negative factor. Current reservations should be allowed to expire, be re-purchased, or traded for lands outside the area.

Quartz mineral leases exist in the southern portion of the Wildlands Recreation Unit, but there is no evidence that the claims are of producing potential.

The South Castle displays little coal producing potential. Coal mineral exploration permits do cover the southeastern section of the unit although leases are few and commercial finds have yet to be reported.

As a wilderness recreation area, the South Castle has many attributes. It is a striking area with dramatic peaks and high altitude alpine lakes. The mountains in the South Castle are more vivid in coloration than the Rockies further north.

The South Castle is located directly north of Waterton Lakes National Park on the B.C. - Alberta border; it would serve as an ideal buffer zone for this park. Extended wilderness hiking routes, notably over Castle River Divide Pass, could make use of both areas. New and interesting access to the backcountry of Waterton Lake could be accomplished from the Area. The South Castle already contains several hiking and horseback trails. The major corridor (a road) runs down the Castle; numerous trails spur off the main valley winding their way up side valleys to highland lakes and cirques. The possibility also exists for opening a high level trail which would circle the central unit, travelling from West Castle River past the Castle River Divide Pass, up to Bovin Lake and around to Table Mtn.

When discussing the primitive recreation potential of the South Castle, it is interesting to point out that the entire region was once part of Waterton Lakes National Park. Later it was decided that the area should be placed in the Forest Reserve and the north boundary of the Park was then drawn at the head of the Castle River. Upon becoming part of the Forest Reserve, South Castle was designated as game reserve. Over-population by elk and subsequent deterioration of winter range led to the cancellation of the game reserve in 1954. Since that time the South Castle has proved to be one of the most popular hunting regions in Alberta.

The South Castle is estimated by Alberta's Fish and Wildlife Division to contain an excess of 1,500 head of big game, with mule deer being the most plentiful. Elk, moose and sheep are other major ungulates in the region. Several big-horn ranges occur within the proposed Wildlands Recreation Unit. A few mountain goats occur and black bear, cougar and some grizzly are present. The South Castle provides one of the very best grizzly habitats in the province and it is hoped that the current closure on hunting of grizzlies in the southern part of the province may allow the population to increase over the next few years.

Five species of game bird are found in the area. They are: blue, sharp-tail, ruffed and spruce grouse and white-tailed ptarmigan.



For the most part the streams in the South Castle, have a moderate to high potential for production of cold water sport fish. The major streams, South and West Castle Rivers, are probably the two best mountain stream fisheries in southwestern Alberta. Native fish in relative abundance are: cutthroat trout, Rocky Mountain whitefish and Dolly Varden char. Several of the lakes, notably Bovin, West, North and East Scarpe, Grizzly and the South Fork Lakes have all been stocked with Eastern brook, rainbow or golden trout. The South Castle is one of the few areas in Alberta where the exotic golden trout has survived well.

When we talk about dedicating the 103 square miles of the South Castle as a Wildlands Recreation Area then, we do not talk about setting aside pristine lands for future generations. Rather we acknowledge that this area, in many respects already worked over by man, has just too many recreational qualities best appreciated from the wilderness frame of mind, to allow it not to be preserved.

Golden  
Trout

G. Brownlee

156-20

## SOUTH CASTLE



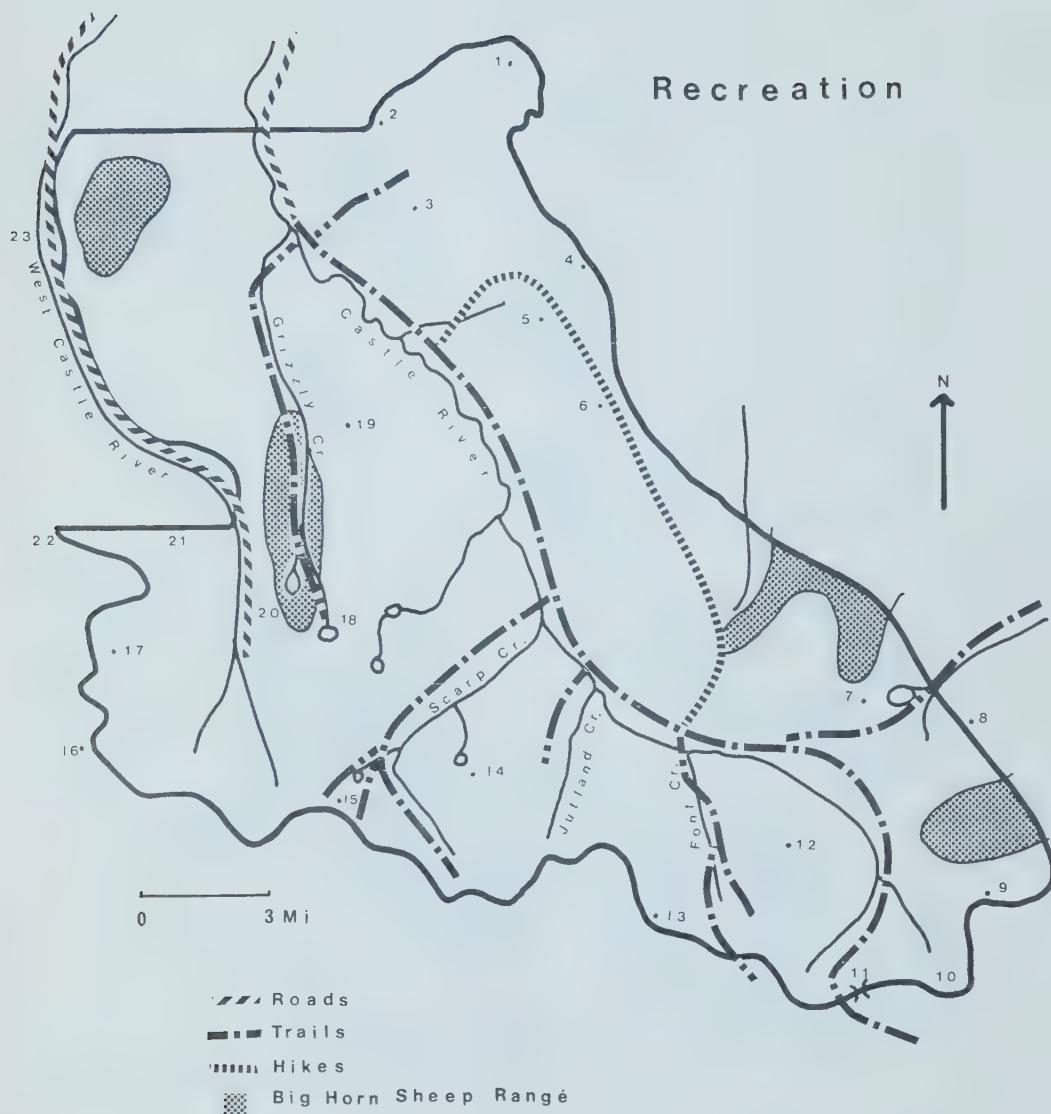
Watershed Protection

SOUTH CASTLE

Points of Interest

1. Table Mountain
2. Heavily-used Sheep Lick
3. Whistler Mountain
4. North Castle Mountain
5. Castle Peak
6. Windsor Mountain
7. Bovin Lake
8. Loaf Mountain
9. Newman Peak
10. Avion Ridge
11. Castle River Pass
12. Sage Mountain
13. Font Mountain
14. Jutland Mountain
15. La Coulotte Mountain
16. Scarpe Mountain
17. Three Lakes
18. Ruby Lake
19. West Castle Mountain
20. Grizzly Lake
21. Popular Huckleberry Picking Area
22. Middle Kootenay Pass
23. Ski Area

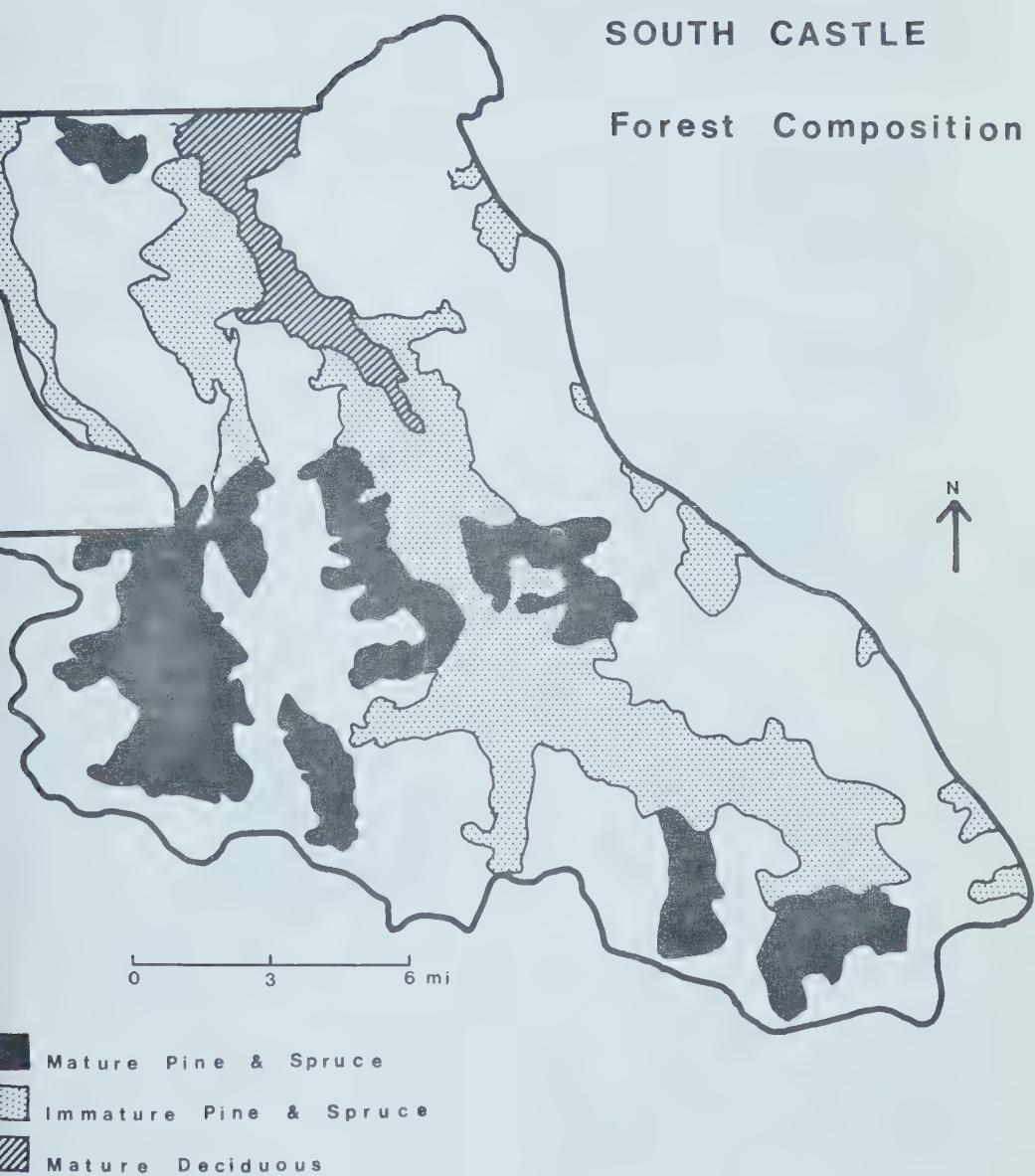
## SOUTH CASTLE



156-23

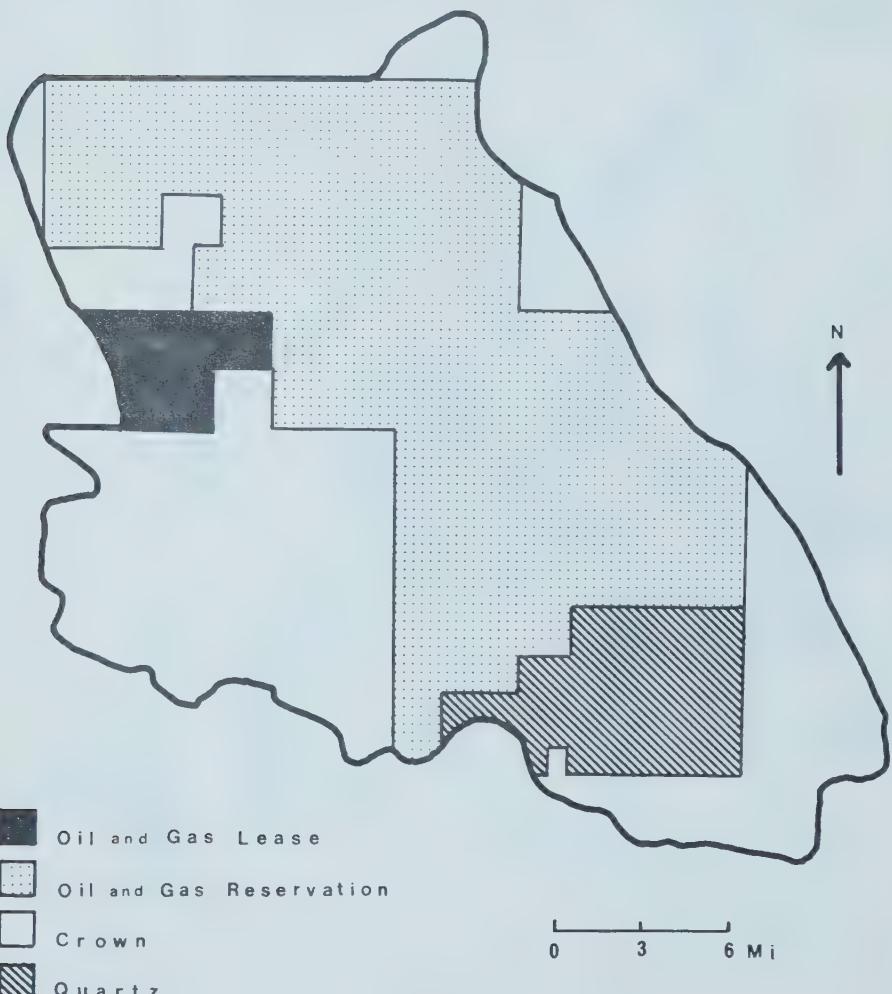
## SOUTH CASTLE

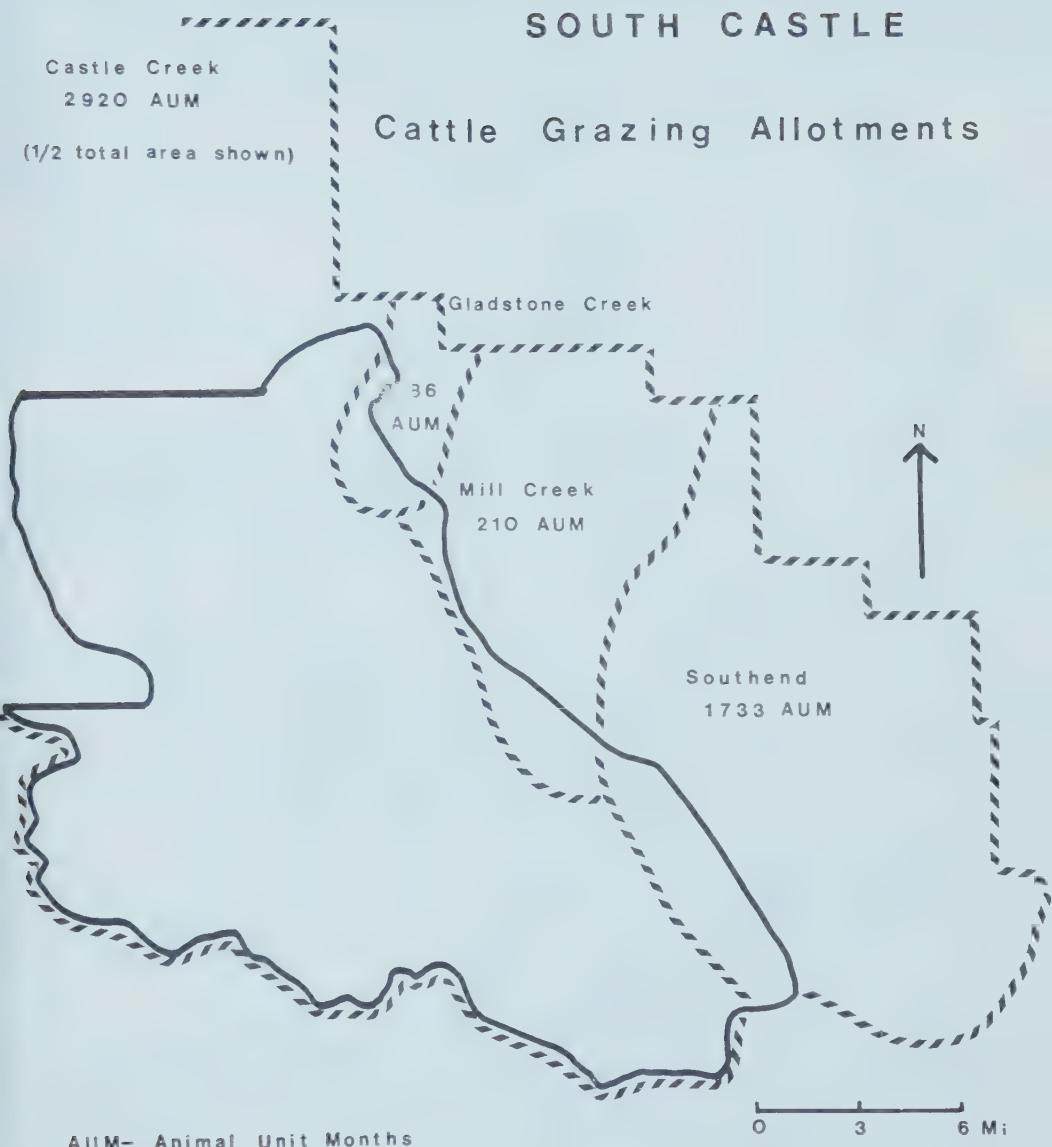
### Forest Composition



## SOUTH CASTLE

## Mineral, Oil &amp; Gas Rights







upper oldman

## THE UPPER OLD MAN

The Upper Old Man, centered on the Headwaters of the Old Man River, was believed by the Blackfoot Indians to be the homeland of a supernatural being, second in power only to the Great Spirit. This being, who repeatedly gave the Indians games and taught them how to paint themselves, was called the "Old Man".

The western border of the Upper Old Man lies on the B.C. - Alta. boundary between the peaks of Mt. Paraquhar and Mt. Erris. On the east, the area is bounded by Cummings Creek and the Old Man River. The Upper Old Man unit is 100 square miles in area. It sits on the Great Divide Range, the major spine of peaks being located along the western edge. One peak, Tornado Mountain, rises to 10,000 ft while three others, Mt. Gass, Mt. Lyall and Beehive Mountain, reach 9,500 ft.

In addition to the main western ridge, a watershed divide cuts east-west across the unit separating Cummings and Lost Creek, of the north-flowing Highwood River drainage, from Straight and Oyster Creeks of the south-flowing Old Man River drainage. There are two major passes along the B.C. - Alta. divide, Windy and Tornado Passes. The names of both offer some clue to the backcountry traveller as to what weather conditions can be expected.

Geologically, the area may be divided into two parts. On the western fringe, and more or less paralleling the British Columbia - Alberta boundary, is a strip of Paleozoic rocks, ranging in age from Devonian to Mississippian. These rocks are dominantly light grey limestones and dolomites.

To the east are rocks of Upper Cretaceous age. Those of the Alberta Group are dominantly dark grey marine shales, and those of the Belly River formation are non-marine sandstones and shales. These rocks are folded into gently-dipping anticlines and synclines. Towards the eastern border of the area, outcrops of older Mesozoic rocks predominate, generally of Jurassic to Lower Cretaceous age, including the coal-bearing Kootenay formation.

Like the South Castle area, the Upper Old Man is certainly not an untouched wilderness region. In fact, the Upper Old Man contains evidence of human activity over a time period extending back almost 9,000 years. Archaeological sites are located on the Old Man River, especially at the tributary junctions of Oyster, Hayden, Honeymoon, Cache and Slaker Creeks. A site also exists on Upper Dutch Creek.

Apparently, ancient man used the area for hunting, establishing spring-fall camps at various sites in the region. From these bases, hunting parties travelled into side valleys in search of the principal game animals of the time, bis

Past generations used the two Great Divide passes, Windy and Tornado, to cross the Rockies. The pass between Cataract and Oyster Creeks is known to have been used by Kootenay Indians on their eastern hunting expeditions. In 1884, on this north-south divide pass, Dawson recorded encountering cairns which must surely have been constructed earlier by travelling Indians. Cache Creek and Cache Lake were named, in fact, for a cache which the Indians maintained at the lake for

storing buffalo meat gathered during the hunt. At the end of the hunting season the meat was hauled out by the Indians to their winter living areas.

Unless the Upper Old Man, a region of significant potential interest to the archaeologist, is protected from developments such as strip mining and extensive road building, much of the valuable information pertaining to the existence and activities of prehistoric man will likely be lost. Setting aside the Upper Old Man as a Wildlands Recreation Area would thus help preserve an archaeological resource.



Signs of activity in the Upper Old Man are easily observed. To the north of Mt. Cass on the Great Divide, the remains of the old Galena, or Miracle Mine, are still plainly evident. Several shafts, an old ore car, and other discarded equipment still exist. The abandoned road up the Old Man River was once the means by which the lead and zinc from this mine were carried out. Soon, however, because of slides, the upper reaches of this road will be passable only by foot and horse.

The walls of an old cabin are to be found still standing at Slaker Creek. This cabin was apparently built and used during World War I by a group of men who lived here to avoid being conscripted into the army.

Despite these historical uses, the area is still essentially intact wildland. It has never been logged on a commercial scale. In fact, the majority of the region is either in watershed protection forest - which should not be logged - or alpine. The only significant forest stands are situated in the lower elevations of the main valley, e.g., Old Man River, Hidden Creek, Cumming Creek. Most of this timber is immature and presently unsuitable for harvest.

The Upper Old Man is untouched by coal mining activities. Hopefully this situation will prevail in the future. The region is situated to the west of the proposed coal area on Pasque Mountain in the Upper Livingstone; however, it does not really possess a major coal potential: any leases existing in the area are confined to the eastern one-third of the unit.

Most of the area is covered in oil and gas reservations. Potential appears low and operation costs would be high. Nevertheless, it is important that steps be taken to see that existing reservations are not resold when they expire. In some instances, it may be desirable to buy back or 'trade off' certain existing reservations.

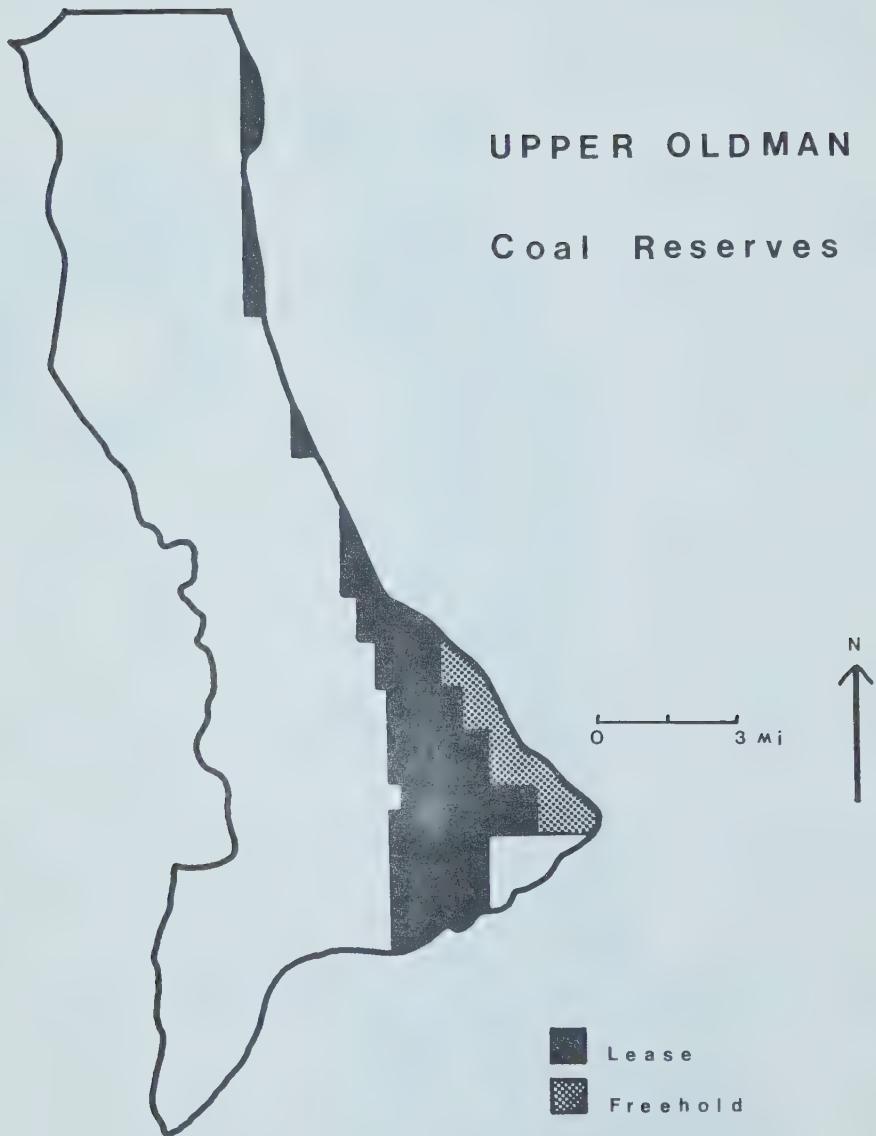
Of any resources which might affect the area, cattle grazing is likely the most significant. The Upper Old Man region falls within three grazing allotments, Cataract Creek, Upper Old Man, Lower Livingstone. Yet, as mentioned elsewhere, grazing operations, properly managed, can be compatible with a wildlands recreation concept.

156-29

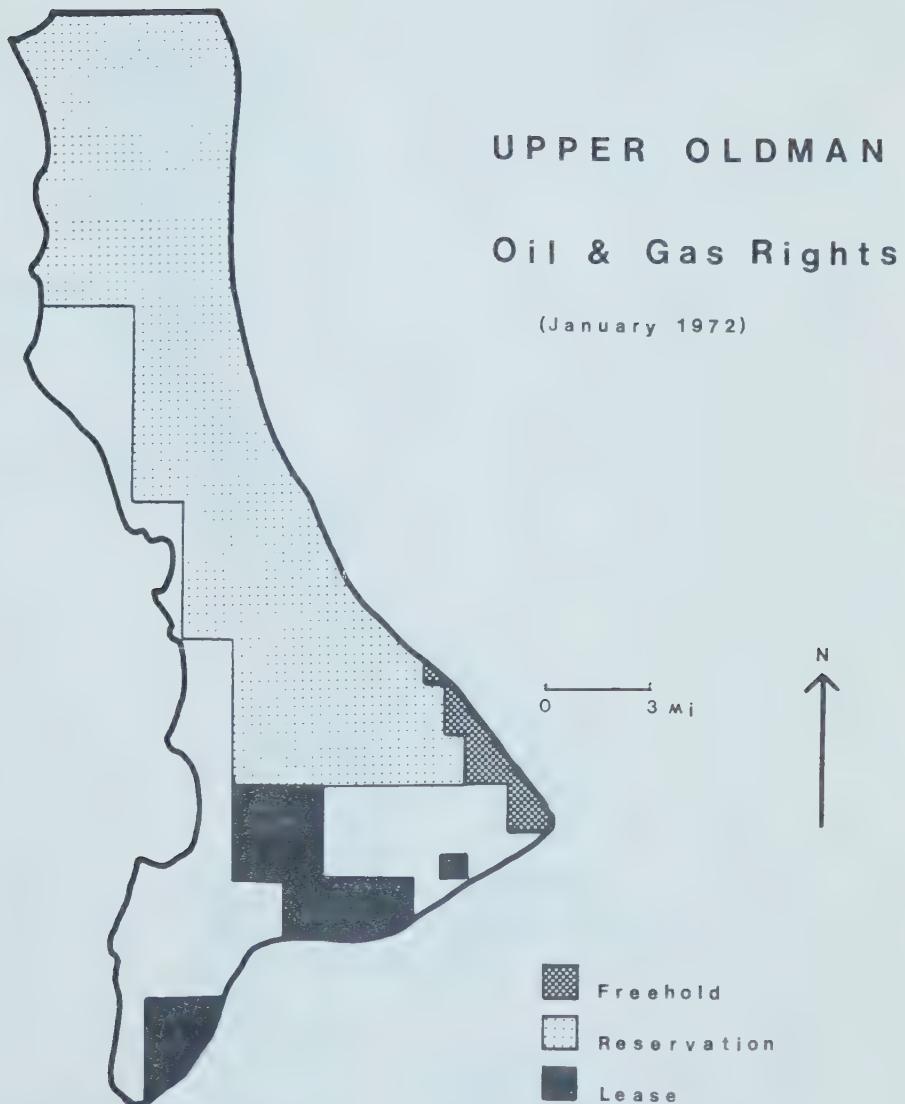


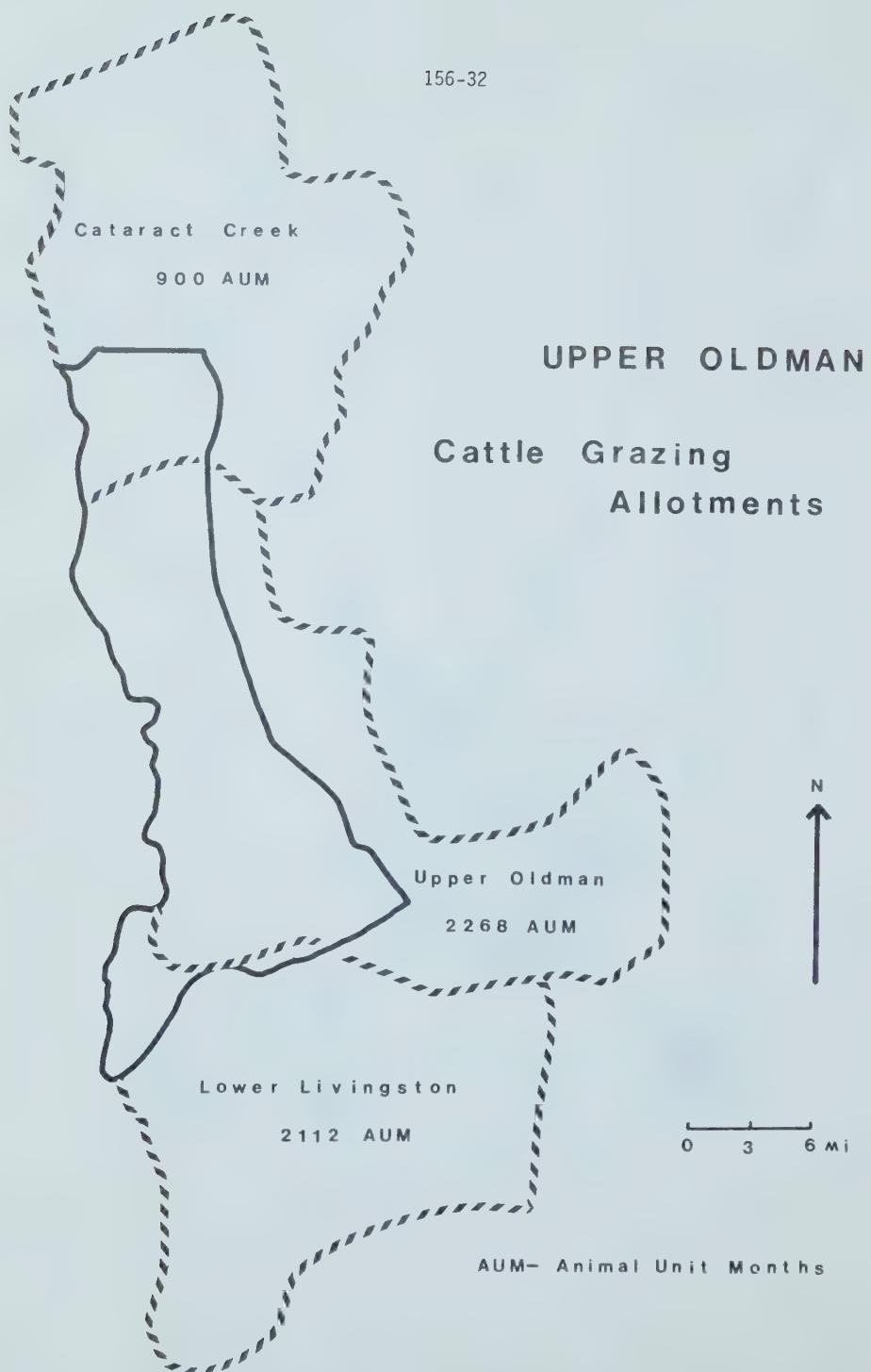
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UPPER OLDMAN  
Coal Reserves



156-31

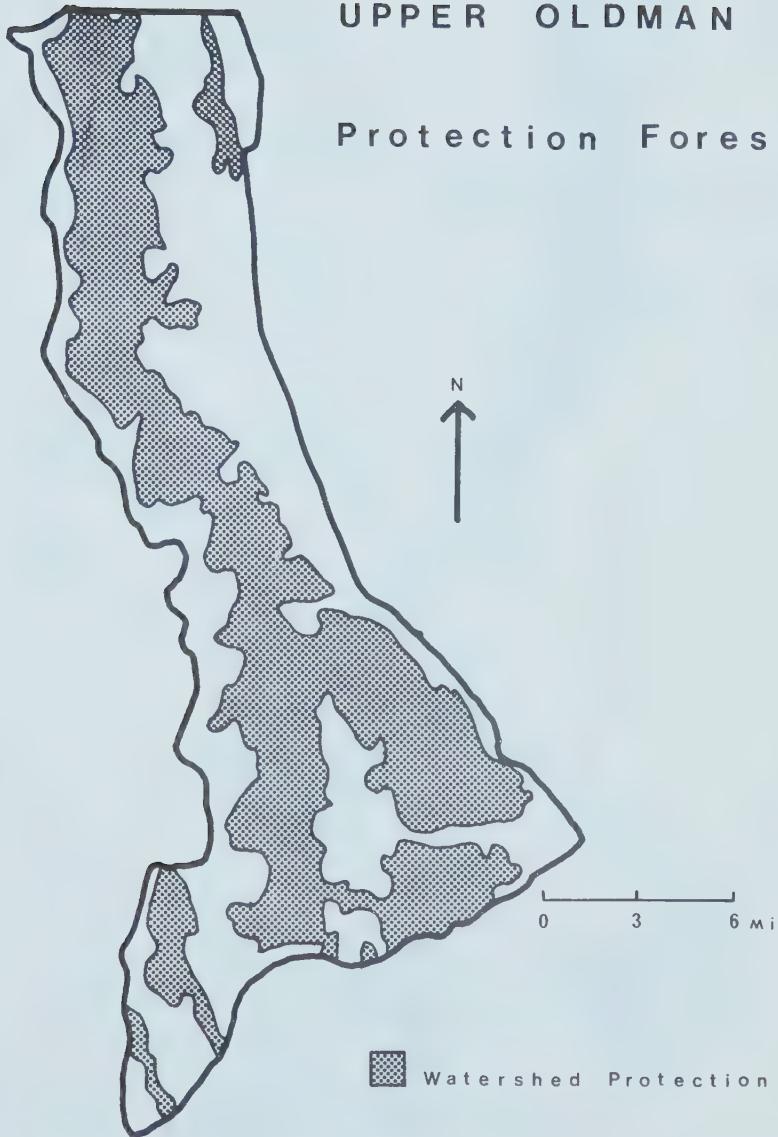




156-33

UPPER OLDMAN

Protection Forest



156-34

UPPER OLDMAN

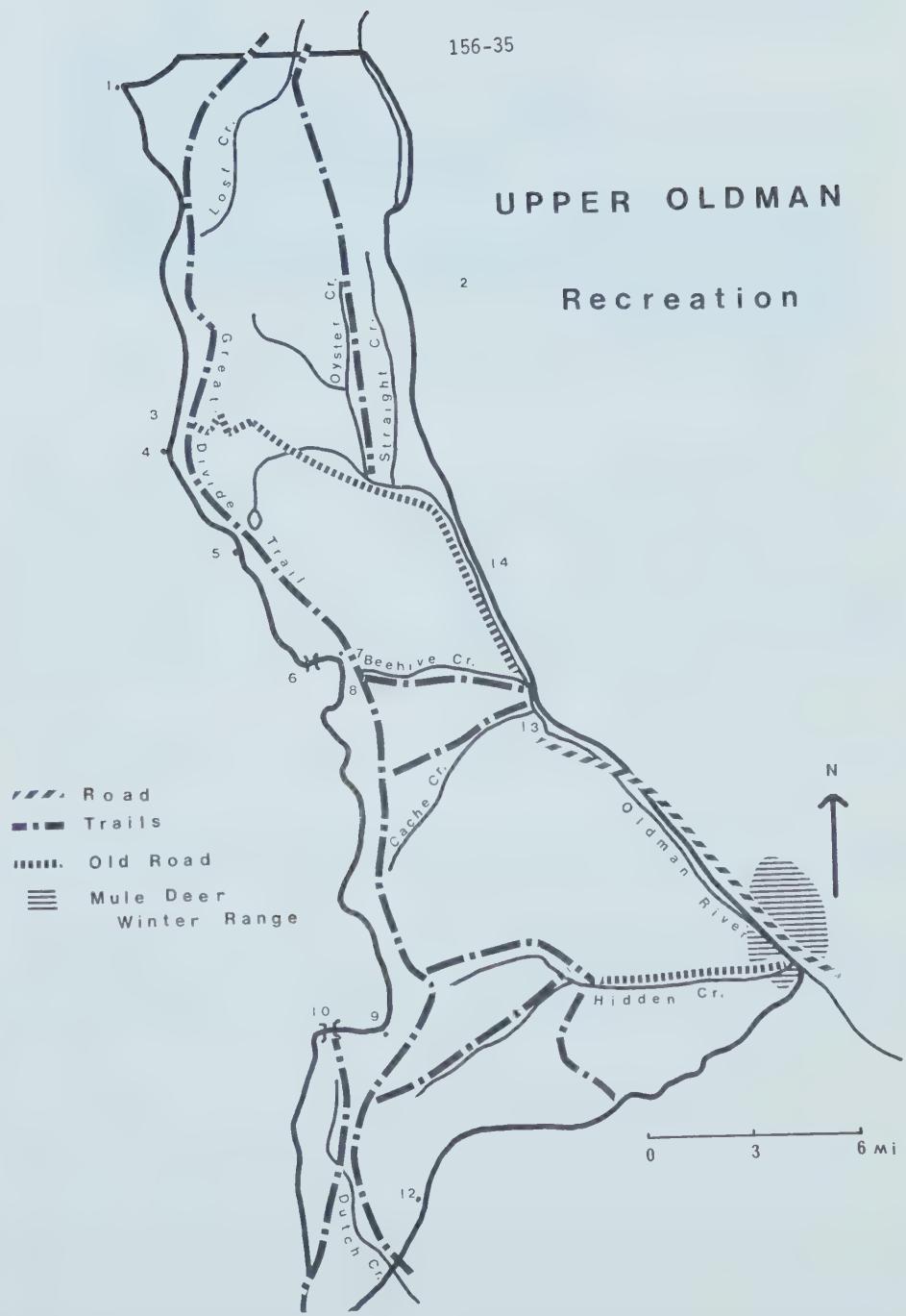
Forest Cover

0 3 6 Mi

N



- Mature Pine and Spruce
- Immature Spruce
- Immature Pine and Spruce
- Mature Deciduous and Coniferous





Looking south along the Divide

R.P. Pharis

From the recreational wildlands point of view, the Upper Old Man offers a diversity of routes for backcountry travel. A major north-south trail, likely to become a link in the Great Divide Trail route, winds its way at high elevation above timberline along the B.C. - Alberta border. Several accesses, at Upper Dutch, Hidden, Cache, Beehive and Lost Creeks, suggest that different loop trips of varying duration could be conducted in association with the major north-south divide trail. These access routes, interesting valley trips in themselves, will allow for a large number of travellers to be well distributed throughout the region without any one area suffering from overcrowding.

The mountain pass routes suggest that the hiker could travel beyond the proposed recreational wilderness area into British Columbia and the Upper Elk Valley. Of the pass routes, Tornado Pass with Tornado Mountain above, is of superb beauty.

For the mountaineer, the key peaks of the region are Mt. Farquhar, at the head of Cataract Creek (9,500') and Tornado Peak. Most of the peaks in the region were first ascended in 1915 by Geological Survey crew members. Little information exists, however, regarding the quality and challenge of climbs.

Presently the Upper Old Man is lightly used, comparatively speaking. Most visitors are from neighbouring towns and areas - Claresholm, Ft. McLeod, Lethbridge and the Crowsnest Pass. Their activities tend to be concentrated along the Old Man River. For the most part, these people come to fish and hunt. Several outfitters operate guided hunting trips into the region in the fall as well.

Indeed, for many the Upper Old Man region is a well known fishing and hunting area already. Although it contains no significant winter range areas (except for a mule deer range close to the junction of Hidden Creek and the Old Man River), it encompasses, for most of the year at least, populations of grizzly and black bear, elk, moose and sheep. A sheep lick is located at the head of Beehive Creek. It is not unusual to see a large band of bighorns there.

Organized outfitting was begun in this area by Bert Riggal about 1915 and flourishes to this day. For years, the region remained productive, yielding some excellent trophy elk and bighorn sheep. However, increased hunting pressure has been brought about recently by the improvement of the lower reaches of the mine road. Thus, trophy size elk and sheep have declined in number.

If we believe it necessary to retain the original flavour of Alberta's backcountry, then we must from time to time isolate areas like the Upper Old Man from motorized travel, designating them as recreational wilderness. To this end it is suggested that the Old Man River road be terminated for vehicle use at the junction of the Old Man River and Straight Creek. In this way access to the edge of the wilderness would remain, but motor travel inside the area would be prevented.

Fishing potential for the area is moderate. The Old Man River itself was a good fishery until the road was improved. The Old Man River still retains a much reduced population of small cutthroat trout. The best fishing stream of the wilderness unit is Hidden Creek. Small cutthroat are abundant throughout its length. Dolly Varden trout are present to a moderate extent in Cache, Oyster, Beehive, Lyall and Soda Creeks.

Since the total length of all streams in the Upper Old Man, however is only 32 miles, the area cannot withstand intensive angling. Either the number of users must be controlled, by limiting access, or the sport fishery of the area must be expected to decline further in quality. The only lake in the unit, at the head of the Old Man, is shallow and small, and most probably cannot maintain a permanent fish population.



## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Mr. Eickmeier, earlier today you were talking about commercial developments within the forest reserves. Would you like to tell us specifically what you think about them? Do you think they should be limited or excluded completely? What sort of guidelines would you like to give us in that area?

MR. EICKMEIER:

My personal thoughts are that I am opposed to very user-oriented types of facilities within the forest reserve lands. There may be occasions when the development is desirable, as it benefits a large number of Albertans. I'm thinking of an existing ski development, perhaps. I don't think we have to look at cases, but my general thought is that there should not be any. There should not be individual land holdings within the forest reserve lands simply because it is the upper income group within the province which accumulates these lands. I do not think this is to the overall benefit of the majority of Albertans.

MR. KINISKY:

You are prepared to say, well, fine, if we must have development in some of these wildland areas, we have to take real precautions to see that there is total restoration to the wildland kind of surface. Would you recommend then that the responsibility be left with the companies operating in there, or that the companies pay specified sums of money and the reclamation be done after they have finished their operations?

MR. EICKMEIER:

I think generally the companies recognize the need to repair and restore and I do not think they should ever be relieved of that responsibility. I think they should develop their techniques and talents in these areas.

MR. KINISKY:

You have spoken about road construction and the deleterious effect this has on wilderness areas. Would you like to expand on that a little bit and tell us why you feel that the roads are something which really can't be tolerated in the wilderness areas? I ask this because it has been put to us on several occasions that there are people who are much older or a bit feeble or have some inability to walk. They would never have access to these places unless there are roads.

MR. EICKMEIER:

Well, I think we should look at the purpose of these areas. We want an area where people can hike, where they can hunt, where they can fish, where they can enjoy a wildland environment. There may be people who cannot get out and hike. I believe 95 per cent of the people in the province can get out and hike. It's amazing what you can do when you give yourself a chance.

These people are interested primarily then in the scenery and there are areas where they can go. We are talking about upgrading the Kananaskis road. We have the national highways through the national

parks. There are areas where they can see this and enjoy it. Perhaps they will be deprived of this opportunity.

We really have nothing left if we put a road into every area. We do not have that sense of isolation. We are not able to get away from the stresses and strains of our civilization and our city environment. Once you have a road into an area, it's very hard ever to reclaim that area. People say, we have gone in there once on a vehicle and we want that right. We want to go in there again. It's easier if you never have that road. I think we need areas, and we are talking about 10 per cent of the total 40,000 square miles of the east slope areas, set aside where people can get away, where they can enjoy this sense of solitude, where their day is not spoiled by the fumes and the noise of the vehicles.

MR. KINISKY:

All right. In the north Porcupine area, how much of that land is owned by the Crown? Is any of it held with surface rights in actual title to private individuals?

MR. EICKMEIER:

Not to my knowledge. It is all forest reserve land owned by the government.

MR. KINISKY:

We were talking about the business of cattle grazing in this area as a compatible activity. In the work that your organization has done, especially looking at the north Porcupine area, have you seen any real evidence of stream bank degradation because of grazing or overgrazing by cattle?

MR. EICKMEIER:

I'm not qualified to comment on that myself. We believe the extent of grazing should be a management decision. I believe in general there has been quite a cutback in the amount of grazing allowed within the forest reserve lands. In many of the wildland areas that we are proposing there is very little actual grazing usage at this time. In the Porcupines there is tremendous usage. I could not comment on what damage there may be. I believe that this can be controlled under management decision, under good policies for avoiding damage.

MR. DOWLING:

Is it my understanding that the Alberta Wilderness Association wishes to have these wilderness areas designated under The Wilderness Act? If so, what changes if any are necessary to The Wilderness Act?

MR. EICKMEIER:

No, we are not asking that they be set aside under the existing Wilderness Act, the reason being that in its nature the existing Act is very restrictive. There is no fishing within the areas, no hunting, no berry picking. There is a complete ban on almost any type of activity. We are asking for a wildland area. I use the term wildland as opposed to wilderness which has been defined by the Act. In the wildland areas we would see a greater use, more user-oriented areas.

MR. DOWLING:

In your total proposal to the Authority there are, I believe, eight or nine proposed wilderness areas.

MR. EICKMEIER:

We have one proposal with regard to the Elbow-Sheep. We have another proposal that takes in nine other areas, so that takes us up to ten areas. We have another submission which we will be making with regard to the Willmore, which only exists under regulation at this time, not statutory protection. So in total we could say there are 11 areas. I have not been involved with regard to one other proposal with regard to the wild Kakwa area, and I cannot comment on that, but that could take it up to 12.

MR. DOWLING:

Do any of these areas provide for total preservation of the wildland as would be set out under The Wilderness Act?

MR. EICKMEIER:

We have not specifically recommended this. We are in agreement with the approach that within the wildland areas possibly some lands should be set aside under the same type of control and preservation as exists under the present Wilderness Act.

MR. DOWLING:

Is it the plan of the Alberta Wilderness Association to provide us with a proposal along those lines, if not at this time, at some time in the future?

MR. EICKMEIER:

We would certainly be willing to cooperate with the Authority in coming up with such a plan. I think first we have to find out what the general public reaction is to the proposals, if this is the sort of thing the public wants.

MR. DOWLING:

I believe you have said that you would permit the use of horses within these particular wilderness areas. Is that true?

MR. EICKMEIER:

Yes. I might relate back to my experience as I grew up in northern Ontario. In that area a canoe is an essential mode of transportation. I could not conceive of an area being set aside as a wildland area without moving into that area with a canoe as a basic form of transportation.

I tend to think that in the West there are many people who grew up in close association with a horse, learning to ride. They have made use of the horse in the forest reserve areas. I think there is a historical basis for continuing this. We may find that if there is overuse or damage as a result of such activities, then they would have to be curtailed. Again, this would be a management decision type of thing. If the usage by hikers reaches such an extent that the conflict is obvious, then something has to give. I think this is a management decision again.

It's an answer that we may be able to come up with in future. We haven't attempted to provide that answer at this time.

MR. DOWLING:

We have had a presentation this afternoon from CanPac Minerals Limited, in which they describe their properties at Isolation Ridge. I am not able to determine with the information I have in front of me whether, in fact, Isolation Ridge falls within the confines of your proposed wilderness area for the upper Oldman. Does it?

MR. EICKMEIER:

To my knowledge it does not. It is west of the area.

MR. KINISKY:

Suppose we get to the point where we establish these wildland areas. Are you proposing that there be an act which specifies what a wildland area is and what sort of activities are going to be allowed in that wildland area?

MR. EICKMEIER:

I believe we would like to see statutory protection for these areas. If that implies an act, we would want to see an act. But I think it is part of a larger package of overall land-use policies. This is the core of that land use. You start with your wildland areas. As you move out you have more and more development.

MR. KINISKY:

As we go along with extractive and harvesting industries within the foothills, do you see the possibility of looking at areas now worked over by petroleum, mining, lumbering and everything else and perhaps putting these into a wildland kind of structure once industry has had its cut of it?

MR. EICKMEIER:

I would hope so. Perhaps to some extent the South Castle area is in this category. It had extensive lumbering operations. But once you have roads into an area and people travelling into that area on the roads, you reduce the prospect for realization of such a thing.

MR. KINISKY:

Do you think there is any way, Mr. Eickmeier, in which roads which have given endless access to areas of the foothills can actually be ploughed down, broken up, reseeded and reforested in some way so that, in fact, they would not be existing roads any more?

MR. EICKMEIER:

I think, given time and the regulations to close down the road, yes. Perhaps restoration methods as outlined in the CanPac brief this morning - yes, I think that can be achieved. Within the existing wilderness areas and within the Ghost Wilderness Area there are roads that are growing back. One of the slides we saw this morning was of a seismic cut. We could see there was continuing damage. Maybe we should be going into such areas in an attempt to carry out restoration measures.

All of this takes time. I think if we had started with a wildland concept ten years ago we wouldn't have the conflict. We wouldn't be faced with the difficult decision we are faced with today. Ten years ago perhaps most of us would have said there is no problem. Perhaps there wasn't ten years ago.

MR. KINISKY:

You have these three proposals for the Oldman River basin. Do you put the same priority on all of them or do you want to put some accent on any particular one?

MR. EICKMEIER:

We will put more accent on the Elbow-Sheep proposal, the area immediately west of Calgary, because I think within that area we can bring out many of the points that must be discussed. We can obtain many of the views from the people who use the area. I believe that what happens in this area is critical to the long-term interests of Calgarians. So there will be, from our point of view, special emphasis given to the Elbow-Sheep but I think it's within the overall context of the wildland areas concept.



E. Kure summarized the  
Alberta Fish and Game  
Association brief pre-  
sented formally in  
Red Deer

## QUESTIONING BY THE AUTHORITY

DR. TROST:

Although we are deferring questioning to the Red Deer presentation of this brief, my colleagues have one or two questions they'd like to present to you now.

MR. KINISKY:

Earlier today we had a presentation which suggested that despite the fact that we are holding public hearings of this nature, there will again be public hearings when a specific proposal for any sort of commercial development or extractive industry is presented. What is the feeling of the Fish and Game Association about such a procedure being established?

MR. KURE:

I believe that our association would feel that this was an essential move on the part of government. It may be an impossibility to provide a blanket act, if you like, or a set of rules that will foresee and take care of every event. I would think that probably the individual development after such an act would even be a good procedure to follow.

MR. KINISKY:

I'm quite concerned about the business of development within the forest reserves. I look at Goldeye Lake. I don't know whether you are familiar with it or not, it's just outside of Nordegg. I'm concerned about the prospect of the provision of youth hostels. Do you feel that any of this should be allowed at all? Would you, for example, agree to a very limited amount of this kind of establishment within the forest reserve area?

MR. KURE:

The whole question of settlement, I suppose, is involved in this question. We have taken the broad position of no settlement. If we are going to consider the question of hostels, institutional use if you like, then we have the question also of providing facilities which may be required by church groups, educational groups and various study groups. Service centres are being provided by the various departments at this point in time. I'm thinking of certain ones in the Edson area that you are probably familiar with where large groups of young people are taken on various trips.

This may be of interest to the Authority. I was visiting a downhill ski facility the other day and I noted that while the facility was applying for an extension that involved considerably more than was probably intended, they were providing the facility for large groups and busloads of school children through an arrangement with the school division. This seems to me to be an excellent way of using a facility that probably isn't on a paying basis. This is one way we could use an area for study, rather than duplicating these types of structures. I think the type of facility you are talking about can really fall into the category of institutional use. If we are going to allow it for one group then there is really no end.

BRIEF TO  
ENVIRONMENT CONSERVATION AUTHORITY  
HEARINGS  
ON  
LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

Presented by:

Dr. R. F. Harper  
Lethbridge Naturalists' Society  
June 13, 14, 1973

INTRODUCTION

In an era when there is increasing leisure time, where populations are becoming more and more concentrated in urban centers, and where man is by life-style becoming more and more removed from his roots in the land, greater need is becoming evident, not only for areas where he can gain peace and spiritual refreshment, but where he can again become aware of his place in the natural world. Therefore, wilderness recreation areas are becoming increasingly important not only as places of relaxation and enjoyment of the outdoors, but of education as well.

It is also true that water is essential for the existence of man, animals and plants. As 94% of the water flow at Lethbridge arises out of the foothills-mountain headwater area, and since the Saskatchewan River drainage, of which the Oldman is a part, supplies 87% of the water essential to those living downstream in Alberta, and 42% of those in Saskatchewan, it is obvious that the eastern slopes is a vital watershed area. The Current Status Report on Alberta's Eastern Slopes, Information Bulletin No. 2, sums it up very nicely, "Water quality should have the highest priority over all potential resource values." It is absolutely vital therefore, to consider all other resource utilization in the Oldman River drainage area - present and future - as secondary, and to evaluate each in terms of its effect on the watershed. Only those which are compatible with the watershed resource can be tolerated.

The Oldman River Regional Planning Commission report, "Land Use and Resource Development in the Eastern Slopes - The Oldman River Drainage Basin", has divided the capabilities of the area into four categories and tabulated the conflicts and compatibilities of the various resources. This appears to be a valid approach, and one which will be considered here.

PRESENT USES OF THE AREA

## A. NON-RENEWABLE RESOURCE DEVELOPMENT

## 1. Coal Mining

This has proved to be highly detrimental to the area, from an aesthetic, a water conservation and wildlife point of view. The damages result, not only from the actual mining operations, but from exploration activities, and from exploration and hauling roads as well.

Studies have shown that effluents from mines, both active and abandoned, have deteriorated water quality of streams:

- a) Slippages have occurred into creeks from overburden.
- b) Seepage and leaching occurs from ineffective settling basins erected to contain effluents, landslides from these can occur, as in McGillivray Creek.
- c) Siltation of streams from accelerated runoff from disturbed areas seriously threatens eggs and young of fish, fills in creek beds often making them unsuitable.
- d) Chemical pollution also occurs, most notably precipitation of iron compounds, increasing the total iron many times the maximum tolerance level of 0.3 mg./l., and also has deleterious effects on the spawning fish. This is now particularly significant in the Crowsnest River and Vicary Creek.
- e) Organic enrichment occurs from accompanying activities, e.g. wash house waste waters into Vicary Creek.
- f) Effluents have had a marked reduction on the benthic invertebrates, particularly those associated with clean water and indicative of unpolluted waters - Trichoptera, Ephemeroptera, Plecoptera. The percentage composition of Chironomidae increased from 19% to 92% in samples taken upstream from the Vicary mine effluent and at a point 25 M. downstream from the effluent. Virtually no "clean water organisms" occurred

at that point. Since invertebrates are a necessary food for fish, the effluents obviously contravene the Fisheries Act.

- g) Some research has shown metals found in effluents from the mines in the Oldman River Drainage have been found to be toxic to fish - some causing gill damage. Some of the mixtures of metals have a synergistic effect - not found in pure solutions used in bioassay. The effect on humans consuming fish contaminated by these effluents is unknown.
- h) Disturbance of stream banks and beds by traffic causes destruction of spawning beds.
- i) Removal of vegetation along streams causes warming of water, changing the species in the fish population.
- j) Culverts in streams disturb migration of fish to spawning beds.

Strip mining and its related exploratory activities have had effects on the wildlife of the area:

- a) Loss of habitat due to roads, camps, power lines and mine construction.
- b) Loss of preferred habitat and food supplies by intrusion, noise, odours, and dust -e.g. bears, particularly grizzlies.
- c) Reduction of carrying capacity because of behavioural changes induced by human disturbance. Ungulates may shift their feeding areas from highly productive range to marginal range, or they may stay at higher or lower elevations longer than normal, thus over-grazing the range and gradually reducing its carrying capacity. These changes result in increased mortality among wildlife.
- d) Migration routes may have to be shifted or abandoned completely, thus forcing animals into situations where mortality is increased -e.g. heavier predation, physical injuries (deeper snows, scree slopes, river ford). This is particularly true when all-weather roads are built. The constant

disturbance by vehicles, and deep snow accumulations along roadsides and in ditches make effective barriers for most ungulates. Bighorn sheep are particularly susceptible since they have a very high affinity for learned migration routes between lambing areas, rutting ranges, summer ranges and winter ranges.

- e) Increased vehicular access to back country and high elevations invariably results in heavier hunting pressure as well as widespread human disturbance by vehicles, hunters, hikers and poachers.
- f) There is actual destruction of crucial grazing areas by mining and exploration, and all their related intrusive activities, e.g. on limited range for bighorn sheep and goats on Honeymoon Creek, on Cabin Ridge area between Savanna Creek and the northwest branch of the Oldman River.

There are effects on stream flow and general water quality:

- a) "The alteration of surface and subsurface drainage patterns may have serious consequences. Damage to stream banks, blockage of stream channels and sedimentation cause changes in stream profiles, reduce the storm carrying capacity of water courses, and increase danger from flash floods." See Environmental Impact of Surface Coal Mining Operations in Alberta, ECA 1971.
- b) An increase in algae bloom has been observed in late summer in portions of streams affected by sediment and drainage from surface coal mining operations. Small lakes are especially vulnerable to the effects of disturbances releasing nutrients into the water.
- c) Removal of vegetation on slopes during road construction or mining operations increases erosion, lowers water retention from rain and spring run-off, greatly increasing flooding conditions downstream with consequent erosion of banks and silting of stream beds.

d) Strip mining, or road construction, can disrupt normal flow patterns or groundwater. These cannot be restored by reclamation.

## 2. Gas Extraction

The impact of gas and oil development has been extensive, primarily through exploratory activities. Road construction has destroyed forest cover, rerouted streams, caused stream bed and bank damage, and increased siltation of streams from erosion. Development of well drill sites and refineries causes loss of forest cover, dangers of spillage (with both local damage, and danger of more extensive damage from spills into natural water courses), release of noxious and/or toxic gases into the atmosphere, pollution of surface and groundwaters with by-products, reduction in stream flow and lower lake levels from greatly increased use of water for processing.

Much research must be done to minimize damage by the gas extraction industry. Cost-benefit analysis must be carefully carried out before extractions are allowed. A number of questions must be answered by these analyses. Is the gas for export, or will it be retained for domestic use? Will the economic benefits be retained locally (provincially) or will they go out of the country? Can the resources be better supplied by another source? Can their profitability be increased if the development is delayed?

No exploratory operations should be carried out in key conservation areas. These are far too vital for the well-being of our wildlife resources to be gambled away. In non-key areas, in order to eliminate duplication and/or excessive cutting of seismic lines in the foothills, that a system enabling co-operative use of transportation corridors be devised, and all resource exploration companies be required to use these.

## B. RENEWABLE RESOURCES

## 1. Timber

The Oldman River Regional Planning Commission report indicates that timber resources are of little economic impact, and in view of the importance of undisturbed vegetation in this crucial watershed area, in stabilizing slopes and holding back run-off, as well as providing food and shelter for wildlife, perhaps it should be phased out. In areas designated as key watershed areas, roadbuilding and disturbance of vegetation cover, of any type, should be prohibited. Spraying with defoliants must not be allowed in a watershed area.

## 2. Grassland

Food is one of the main needs of the world, and cattle can replace, ecologically, the bison in the foothills area. However, utilization of the area for cattle grazing must be carefully controlled. There must be careful regulation of grazing load on the land to prevent over-grazing and subsequent deterioration of plant cover and thereby grazing potential. To minimize conflict between wildlife and domestic stock, it may be necessary to close areas, particularly essential to ungulates, to hold them for winter range for elk, moose and mule deer.

Cattle are also destructive to streams in that they trample and destroy stream banks, and vegetation, leading to increased erosion. For this reason, key watershed areas (Map 4. "The Resources of the Foothills - A Choice of Land Use Alternatives) may have to be closed to grazing. Cattle certainly should not be allowed in alpine and sub-alpine areas.

Conflict also arises between the stockmen and the natural predators. It is important to realize that these predators are very vital in the natural balance. The type of "pest control" or "predator control" presently practiced, or any type of hunting of these animals should be prohibited. Because of their position

at the top of the food pyramid, it can be seen that the destruction of even one of these animals can affect the whole food chain. If a specific animal develops a taste for easily taken domestic stock, then a fish and wildlife officer should be responsible for the destruction or removal, to another range, if that individual is proven guilty of killing stock, not just scavenging on carcasses dead from other causes. The grizzly, of course, is the chief victim of this type of misinformed vendetta. Lynx, bobcat, coyote, grizzly, cougar, brown bear, mink or wolf should all be left undisturbed.

### 3. Water

This of course is the most important of any resource in the eastern slopes. Its continuing supply must be carefully safeguarded. As was pointed out in Bulletin #2 - "Current Status Report on Alberta's Eastern Slopes", "water quality should have the highest priority over all the potential resource values". "Any proposed change in the stream side or watercourse areas to facilitate irrigation, transportation or recreation constitutes a serious threat to the ecological stability of the total environment." This then tells us that no consideration should be given within the mountain foothill area to dams or diversions of any of the streams, and roads and recreation facilities must be limited. They should only be allowed in carefully selected, low impact sites in non-key areas. Road construction must be carried out in such a way that there is no damage to stream bed or side, and no disruption of water flow.

As has been pointed out in the same bulletin, agriculture and industrial activity both have effects on the downstream water quality, but "the most severe and immediate effect which has been noted in the Alberta foothills has been caused by a variety of road construction, including that for timber management, oil and gas exploration, coal exploration and development, as well as

construction for primary access routes and highways." This conflict with watershed value is recognized. The solution would seem to be stricter regulation and control of these activities. Exploration activities would be better carried out by helicopter or on foot, and common corridors should be used for gas lines, power lines, roads, etc. Absolutely none of these activities should be carried out in key watershed areas.

The O.R.R.P.C. report states "Without the key natural watershed which conserves moisture in the form of groundwater and slowly melting ice or snow, these fluctuations (noted on water flow chart) would be even greater, thus aggravating erosion and siltation during spring run-offs and conceivably leading to critical water shortages at other times." 94% of the outflow at Lethbridge is contributed by the mountains and foothills portion of the drainage basin. Since the city of Lethbridge and various smaller centres, and agricultural areas between the foothills and the junction of the S. Saskatchewan River are almost totally dependent on the Oldman for water, it is vitally important that the supply remain constant, and that neither quality or quantity be jeopardized. The effects are not localized in Alberta, but effect all those downstream on the Saskatchewan River drainage system as well.

Approximately one million acres of irrigation land are highly dependent on preservation of water flow in the Oldman drainage system. While some of these irrigation systems depend on trapping peak flows in reservoirs to regulate the flow in their system, others, such as Lethbridge Northern Irrigation District, depend solely on the maintenance of a reliable flow of water in the Oldman River. This is determined by what happens in the headwaters, whether the moisture is retained by forest cover or lost quickly in stripped areas where no moisture can be retained. Much of the economy in Southern Alberta depends on maintaining of viable agricultural industry.

There are two more statements in Bulletin No. 2 which should be the credo of those planning the future of the eastern slopes. "Water is such an important element in the total environmental picture both to the immediate area and to downstream uses that its management should take precedence over all other activities." "All of the renewable resources are highly dependent upon the water availability and its quality so that first consideration must be given to water, even at the cost of exclusion of other activities."

This same report also points out that, due to soil instability "few of man's activities can be tolerated in this special area." These statement must form the basis for future planning in the eastern slopes.

#### 4. Recreation

Recreation should be divided into intrusive and non-intrusive, and whether they are facility or non-facility oriented. As the study points out, some recreational activities are incompatible not only with other renewable resource uses, but with each other.

Possibly some sites already destroyed by coal mining or other resources rape could be reclaimed sufficiently for some of these uses.

- a) Intrusive recreational uses - facility oriented.
  - i) Downhill skiing - This requires a good deal of development, and is often accompanied by a heavy concentration of visitor or patron services. These of course require careful planning and regulation in order to minimize the impact on the environment. Waste disposal, construction of the site and the servicing roads, must be so designed that there is no interruption of natural drainage or impairment of water quality. and minimal disturbance of the flora and fauna of the area. As with any disruption of a watershed area, careful impact studies must be carried

out by Department of Environment personnel or their agents, and plans to prevent possible adverse effects submitted to and accepted by the same department, before any construction is considered. Impact studies carried out by the developer would be suspect.

Intensive recreation or commercial sites must be allowed in key watershed area, e.g. the northwest branch of the Oldman.

- ii) Tourism - of a type necessitating elaborate accommodations such as motels, trailer courts, or serviced campsites. The same precautions should apply to this type of development as to the downhill skiing facilities, and again, key wildlife and watershed areas must be avoided for this use.
- iii) Tourism - road oriented.

Roads do have a high environmental impact in that they disrupt migration patterns, disrupt drainage areas, cause deterioration of water quality, destroy habitat and feeding areas, in short, cause all the same problems (with the exception perhaps of some forms of chemical contamination) as those outlined under the impact of strip mining, plus the added human impact on the area such as increasing traffic, demand for additional facilities, etc. This of course places increasing pressure on the watershed as vegetative cover is replaced by asphalt and buildings, or simply worn off by excessive traffic. Add to this, waste disposal problems due to increased people pressure, and water quality problems can become severe. Therefore it is important that roads be limited, and built or improved only under strict regulations to minimize environmental damage. It should be noted that since these roads would be recreational in their use, they should be deliberately engineered for a strictly enforced speed limit of 50 mph

or less, rather than engineered to meet the standards required by a high speed highway. This should apply to all roads in the area, excluding No. 3 highway, including primary and secondary access roads. These road building stipulations would serve four purposes:

- it would minimize environmental impact because the road would tend to follow the topography,
- it would discourage commercial high speed traffic and leave the road to its original recreational use,
- it would encourage users to slow down and gain optimum benefit from their outdoor recreational experience,
- it would tend to reduce collisions between motorists and the slaughter of wildlife by motor vehicles, e.g. during migrations.

A load limit should also be imposed upon any major roads of this area to discourage use by commercial traffic. The present secondary road system should not be extended, nor should it be "improved" beyond paving. In addition, a scenic and recreational highway design standard should be developed with mountain and foothill problems in mind.

Existing exploration roads, e.g. Grizzly Creek, should be closed to vehicular traffic, particularly that into key watershed, conservation and wildlife habitat areas in higher valleys, to prevent disturbance and decimation of wildlife. In view of the special needs of people, because of age or infirmity who are unable to hike or otherwise get away from central roads, small, safe, one-way, low-speed loop roads could be built to a scenic lookout, or a special pleasant spot. These could connect with a secondary road such as the Kananaskis forestry road, or even No. 3 highway. This would enable the physically incapacitated to also gain from the recreational capabilities of

of the area. It might be necessary to have a gate closing off such a road with an attendant to make sure the road was used only for its original purpose.

iv) Kananaskis Road Development

Of particular concern is the development of the Kananaskis road north of Coleman. Despite public statements by elected officials to the contrary, considerable construction work has been carried out on the extreme northern and southern portions of this road. The immediate and obvious effects north of Coleman have been to destroy the scenic nature of the road, establish chronic erosion slopes, and increase stream siltation (e.g. Vicary Creek). Less obvious, but perhaps more critical are the consequences of such construction on animal migration. The largest non-park herd of elk in Alberta must cross this road twice annually in the area of the Oldman River. This migration is necessary for them to reach their required summer and winter ranges. A high speed, paved road, with deep ditches and fences, will effectively curtail much of this migration.

We recommend, instead, that the entire scenic appeal of this route be salvaged by simply paving the existing road. Where necessary to improve public safety, the road may be widened and guard rails installed. At all costs this road should not become a high speed route. The decision taken on the Kananaskis road will be paramount to policy of the E.C.A. and the Department of the Environment and therefore, great effort should be taken to ensure the correct decision for the area.

b) Intrusive - non-facility oriented.

i) Hunting - man is a predator, but his predations are unnatural. He takes the young, prime, healthy animal whenever possible, or the trophy animal, those which tend to be the

most desirable breeding stock, rather than the sick or stupid. These latter animals are the ones that fall prey to natural predators, thus ensuring the continuation of the most healthy and genetically strong individuals. However, if roads and motorized vehicles of any type are banned in key water conservation and wildlife areas, it is likely that the wildlife can tolerate the hunting pressure. It has already been noted that natural predators should be left undisturbed. Hunting should be handled like fishing - with certain clearly defined areas open one year and closed the next, or, some areas zoned as non-hunting areas so even in the fall those who are purely observers, hikers, or picnickers could go into an area without being endangered by stray bullets. As a general practice, all firearms should be banned in the mountain foothills area, except in hunting season, unless a justified specific use permit is obtained.

ii) Snowmobiling and other sports vehicles. As a general rule, because of their disruptive influences on vegetation, stream beds (in the case of ATVs, etc.) and on wildlife, these vehicles should be confined to roads only, except in special areas set aside for their use. These areas should be selected as low or moderate watershed or wildlife areas, where they will only disturb each other. This is especially important with snowmobiles since the vitality of wildlife is at its lowest ebb when snowmobile use is at its height, and any disturbance, no matter how well intentioned, can be disastrous.

c) Moderately intrusive, moderately facility oriented. Probably the best example of this type of recreation would be primitive camping, which necessitates some type of road into an area, but little actual facilities. This could probably be well tolerated anywhere within the moderate watershed area, governed primarily by restriction to road

construction.

d) Non-intrusive, non-facility oriented.

This would include such activities as botanizing, hiking, backpacking, photography, cross-country skiing, snowshoeing, wildlife observation, etc. These have such low environmental impact that they could be permitted in any area in the mountains or foothills. Angling could also be included here - good management practices can continue harvest of this renewable resource indefinitely. Key fishing streams must be carefully guarded against any kind of development which will affect them as noted previously.

## 5. Wildlife

Because of the variations in altitude, exposure, soil and plant cover of the mountains and foothills area, there are a multitude of habitats, resulting in rich and varied wildlife populations. This wildlife population should be considered as much a resource as the coal, timber, and natural gas. This resource is fully in harmony with watershed conservation, and provides highly beneficial assets for the recreational use of the area. Management of this resource is simple - leave their habitat undisturbed (a necessary recommendation in watershed conservation), limit human disturbance of key habitat areas, leave natural predators uncontrolled, and the problem is solved. While economic values can be placed on some species, i.e. big game populations, there are many other less visible but equally important forms of wildlife which enter the recreational and ecological picture, of interest to photographers, biologists, and just plain interested people. It is important to recognize Alberta's great heritage of wildlife, much of which now exists in this particular area, and to remember this resource has been squandered in many other parts of the world by human greed, and the habit of balancing short term gain against loss of long term values. We still have a chance to preserve our aesthetic heritage, by wise and careful management. Once it is lost, it is lost forever.

The effects upon wildlife of commercial, obtrusive developments such as roads, strip mining, etc. have already been noted. Lumbering perhaps, if carefully controlled in non-key areas, can have a beneficial effect on some forms of wildlife, by opening forest areas to grazing for ungulates. Agricultural practices, i.e. grazing in forest reserves, must be closely watched, and periodic checks should be carried out throughout the year to determine competition for range. Grazing should not be allowed in key watershed and wildlife areas. It should be remembered that there are readily available alternatives to grazing cattle on wildlife winter range (e.g. feedlots, pasture rotation, stock distribution) but unfortunately, such alternatives for wildlife are virtually non-existent.

"Wildlife requires vegetation for food, shelter, and escape cover. Each species has become adapted to a certain vegetation pattern, and any change in that pattern could cause changes in wildlife populations. Where a species has a limited distribution, any disturbance may have a significant impact on its survival."

"Environmental Impact of Coal Mining Operations in Alberta - ECA, Nov. 1971". These statements were made in relation to strip mining, but apply equally to any disturbance in key areas. Big-horn sheep, mountain goats, and the big carnivores and omnivores, such as the grizzly, are especially sensitive, but of course this applies equally to the smaller, less visible species as well.

## 6. Fish

While commercial fishing is not an economic factor in the eastern slopes, sport fishing is very important as a recreation resource, and is thoroughly compatible with good watershed conservation practices. "The high and increasing demand for angling is partly explained by the fact that this is the only area of Alberta that can provide excellent stream fishing." (The Resources of the Foothills - A Choice of Land Use Alternatives). No development or activity damaging stream beds or banks, or water quality should be allowed.

## 7. Aesthetics

There is an old and trite adage, "a thing of beauty is a joy forever". The beauty of the mountain-foothill area is one of our most valued resources. It is renewable in that it is ever changing, and that with careful preservation and conservation measures, it can be harvested forever. It is non-renewable in that once destroyed, as in removal of or damage to a high mountain peak, it can never be replaced. Much of the beauty of this area is not confined to its scenic views. It abounds in the endlessly fascinating life activities which go on in its environs - the teeming plant and animal worlds of infinite variety. Justice W.O. Douglas once said "The aesthetic values of the wilderness are as much our inheritance as the veins of copper and gold in our hills and the forests on our mountains." While the man is not a Canadian, his words are wise, and apply equally to our lands.

## 8. Archaeological and Historical Sites

The Crowsnest Pass has a very high potential for archaeology with something like 12 known sites reported for the area. There should be a history of something like 8000 years in this valley. The inner valleys are rich in sites, some of them, like the Oldman, serving as travelling routes for the Kootenai Indians over the mountain passes. This resource is a non-renewable resource, and once disturbed can never be reclaimed. It is a valuable part of our cultural and historical heritage. Sites should be surveyed and preserved where possible, excavated (by professionals) and salvage operations carried out where protection is impossible. Where excavations have been carried out, the site can become an interesting and educational attraction of the area. Exhibits can be set up to make the public aware of the past cultures of the area.

#### 9. Special Sites

It is noted that there are special sites such as ice caves, limestone caves, and special ecological areas. These would have to be given protection as well. Not all could be open to the public, except under very special and controlled conditions. For example, the formations in the ice caves melt simply because the heat from too many human bodies upsets the delicate temperature balance that produced and preserves these formations.

SUMMARY AND RECOMMENDATIONS

1. The strip mining hearings brought out the fact that strip mining can have serious and detrimental affects on the eastern slopes watershed area because of steep slopes, unstable cover, and the difficulty of surface reclamation. Studies have shown severe damage to tributary creeks and to wildlife habitat, from strip mining and associated activities. The Canada Department of the Environment, in their brief to the hearing on the impact of strip mining, pointed out that strip mining is not labour intensive, that most of the machinery, their spare parts, etc., are imported from elsewhere. The coal in the mountain and foothill area is bituminous, and suitable for industrial use. It is extracted for foreign use, i.e. it presently doesn't provide secondary Canadian industry, and is at the whim of fluctuating world markets. Where the extractive industries are owned by foreign companies, most of the profits leave the country as well. Even if no mineable coal is found, the exploratory operations are highly damaging. In view of the fact that strip mining: 1) is highly incompatible with the watershed values, 2) offers very little in the way of economic returns, the area is far more valuable to Canadians as a well protected primary watershed to protect present downstream development and secondly as a recreational resource, and that another economic base rather than extractive industries be fostered. Extraction and exploration should be immediately halted particularly in key watershed, wildlife and recreation areas, and only permitted under strictest regulation and control in other areas.

The impact of other extractive industries and exploratory operations related to them, in less sensitive areas, should be carefully evaluated in terms of "climate, topography, drainage, soils, vegetation, wildlife, aquatic fauna, resource use patterns (current and projected), access, settlements and human interest areas", Environmental Impact of Surface Coal Mining in Alberta - Nov. 1971. This of course should apply to any major development in this area, whether

it be road, railroad, townsite or major recreational facility-oriented development. It must be emphasized that key conservation areas, as designated on Map #4 of The Resources of the Foothills - A Choice of Land Use Alternatives, should in effect be recreational wilderness areas, and undisturbed by extractive industries or their related exploratory operations, lumbering, cattle grazing, road building, or recreational facility-intensive developments.

The economic base of the Crowsnest Pass area should be shifted to a base of tourism. This could be done by local people with assistance from such programmes as the provincial Alberta Opportunities Company, and the federal Department of Regional Economic Expansion. Both programmes could, by providing capital and expertise, enable citizens of the area to provide accommodations, facilities and related services for tourists and cross-country travellers on No. 3 highway, a very scenic, established route. Local people could also organize pack trips and other outdoor recreational oriented endeavours. It must be emphasized here that international and large corporations must be discouraged, that encouragement and financial support be given local people to establish a viable tourist industry, and ensure that maximum local benefit be gained from that industry.

Experiments are at present being carried out to determine the market gardening and alfalfa production potential of old slag heaps. Greenhouse phases of the experiment have been extremely promising and if actual on-site tests work out, this could be another very important economic base for the area.

2. Access roads must be strictly limited to prevent not only disruption from the road itself, but from excessive human impact.
3. A series of hiking trails following old Indian trails, for instance up Blakiston Creek and over South Kootenai Pass, another up the Oldman River over the North Kootenai Pass, perhaps joining a similar system in B.C., although the area has been badly damaged. Another historical trail follows roughly the Happy Valley

Road east of the Livingston Range, west of the Porcupine Hills, past Massacre Butte near Cowley.

4. Much more research is necessary to determine the extent of damage to watershed, fish and wildlife populations, and habitat, which may result from various developments even in non-key areas, and into how these damages can be minimized. Impact studies must be carried out before any new developments whatsoever are permitted.
5. All motorized vehicles must be confined to non-key watershed and habitat areas, and areas should be zoned for their use.
6. Public hearings should take place before any construction or permission is considered for highways, intensive tourist developments, or any commercial developments of high environmental impact.
7. The responsibility for the mountain foothills area should rest jointly with the Department of the Environment and the Department of Lands and Forests. All other governmental departments should be subject to their decisions regarding the area. Right of entry arbitration for instance must not be allowed to over-rule the judgement of Lands and Forests or Environment personnel.
8. There must be a definite zoning plan in the area with zoning carried out in relation to the watershed requirements, ranging from intensive development to recreation wilderness areas.
  - a) Intensive development  
This would include such things as tourist facilities and related visitor services, non-outdoor oriented recreation, fully serviced campgrounds and trailer parks, and urban oriented commercial facilities, etc. This intensive development would take place along No. 3 highway, with assistance for planning coming from the Oldman River Regional Planning Commission.

b) Primitive development

This would include non-serviced campsites and could take place in areas of moderate watershed value along primary and secondary roads. These campsites should be limited as to size, and services should be limited to wood, garbage cans, fireplaces and perhaps a picnic shelter as is the practice in provincial parks.

Special areas for motorized recreational vehicles could be set aside in this zone, in carefully selected sites where environmental impact will be minimized.

Cattle grazing would take place in selected areas of this zone. Youth hostels of restricted size are acceptable here.

d) Recreational wilderness

This would include all key watershed and wildlife areas, and would have only non-intrusive, non-facility oriented types of recreation. Any other forms of man's activities would be excluded.

9. Where the eastern slopes adjoin national parks, and where they are not zoned for recreational wilderness, a 2 mile buffer zone, free of commercial developments, should be established adjacent to the national park. For example, there is a massive commercial development planned for the east side of Mount Rundle in the Canmore Corridor, possible mining development and recreational area adjacent to Waterton Park.
10. All commercial centres must be limited in size, i.e. acreage, and be in harmony with any overall development plan for the area, e.g. Pigeon Mountain Resort, Mount Rundle Village.
11. The proposed Banff Recreational Park should be relocated somewhere east of Harvie Heights. It's too close to the national park boundary.
12. The Bow Wildlife Park should be relocated, as the area at the foot of Mt. Laurie - Yamnuska should be made into a natural area.

13. Assistance should be given to groups establishing facilities for environmental education in the area through the Department of Youth, Culture and Recreation, Department of Lands and Forests, and the Department of the Environment. These environmental education centres would be more local to southern Alberta. It is noted that one is already set up by the Lethbridge Community College in the West Castle area. This type of endeavour should be encouraged, but strictly defined in scope and usage.
14. A complete moratorium on exploratory activites, now mining areas, and all commercial activities (e.g. West Castle all year round project) must be declared until future policies in the area have been clarified and formalized.
15. Wildlands Recreation Areas - The South Castle, Upper Oldman and the North Porcupine Wildlands recreation areas, as proposed by the Alberta Wilderness Association, if set aside now for the use of Albertans, would be valuable additions to Alberta's recreation system. They all have excellent potential for outdoor recreation. The North Porcupine with its unique geology and transition zone flora, is worthy of preservation for those features alone, as well as for its potential for outdoor recreation. The South Castle area would also be valuable as a buffer zone protecting Waterton National Park.

SUMMARY

The primary value of the eastern slopes of the Rockies and the foothills is in the renewable resource, water! Some present and projected activities in this area are in high conflict with this primary resource. These include strip mining, gas extraction, and their various exploratory activities, in some areas agricultural activities and lumbering also. These, along with future site - intensive, facility-oriented forms of recreation and development, are totally inappropriate for key watershed areas. Preservation and conservation of wildlife and fishing, special sites such as ice caves, archaeological and historical sites are non-conflicting. Non-intensive recreational activities and non-facility activities could be tolerated within this conservation area.

"Lack of planning, commercial exploitation with government consent, and insensitivity toward our ecosystems are but a few ways in which man is rapidly diminishing our wildlife areas, where, in the absence of strong counter opinion, governments are swayed to those who would manipulate it and degrade it for their own needs, or by those who fail to realize how quickly inappropriate forms of use will destroy it - then wilderness shrinks." (Richard Wright, Kananaskis Lake Road, Environmental Conservation Paper, 1972.)

Thoreau once said, "Man is governed not by his needs but by his wants." We must remember our needs - water, air and land, and a place of spiritual refreshment - and not allow our wants - commercial exploitation, and short term economic gain - to take precedent over them. It is time for a careful balancing of our values. Are we going to destroy something of unlimited economic and spiritual value for present and future generations, for something of short term, limited economic value for the present? Too many decisions are made purely for political expediency. "Let's get all this wealth out now during our term of office so we can be popular and stay in power as long as possible. Let the future worry about itself". Instead, a long range, carefully planned approach is necessary, balancing present benefits against future needs. This must transcend politics, and dollar

and cents economics. In our own Lieutenant-Governor Grant McEwan's wise philosophy, "We are the custodians of the land - let us use that stewardship wisely."

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## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Some previous speakers have outlined some of the actions they would take to protect watersheds, about which you've expressed a considerable amount of concern.

What is your opinion of the things that they have told this hearing, and how effective do you think the actions they're going to take will be?

DR. HARPER:

We have a watershed now. If it remains undisturbed, we know where we stand. If we can make improvements to it in the future, this is a plus factor. We know certain things have done damage in the past, such as strip mining. We certainly haven't spent a lot of time in protecting it to date. I don't think we have too many answers at the moment. Therefore, we should be very careful in what we do with it until we do have a few more.

MR. KINISKY:

You mentioned that to keep this natural resource of ours in its natural state would be an excellent idea, but that we could carry on with the tourist industry development.

What do you think of the possibility of our developing the tourist industry to the point where we wind up with so many people in this area that the degradation that would take place would almost be equivalent to what happens in the extractive industries?

DR. HARPER:

Then we would have to go the next step and either develop more land and resources for tourist industry - presumably this would be profitable - or if it weren't profitable, restrict access to the areas.

MR. KINISKY:

It's been mentioned by previous speakers that if a specific commercial extractive industry is planning to go into operation after the public hearings are over, perhaps we should hold subsequent public hearings before any special permissions are granted. Do you feel that this would serve the real purpose of the environmentalist?

DR. HARPER:

I think it would definitely help from this standpoint. In the past, commercial developments often took place before many people were aware of them. It seems to me much easier for those who have to make the final decisions to have a variety of inputs and judge the total value of them, rather than to hear only from a single side.

MR. KINISKY:

Keeping in mind that when a general plan is adopted according to law it is a rather permanent kind of thing, would you be in favour of the adoption of a general plan concerning the eastern slopes, and of having it steeped in statutory protections?

DR. HARPER:

I think to a great extent this would be wise. You can, by due process, change a statute. Doing this tends to bring things out in the open, and gets the various sides discussed.

MR. DOWLING:

I was interested in your remark that the economic base in the Crowsnest Pass should be shifted from extractive industries towards tourism. Have you made any economic investigations which would lead us to believe that the tourist industry would be able to support the people now resident in the Crowsnest Pass area?

DR. HARPER:

I have not. I have had the good fortune of driving through the Crowsnest Pass area quite frequently over the last 35 years, and it has left me with the impression that the resource extractive industry has done very little in that period to support the people who are there now.

I can recall, as an aside, that the first time I was in the town of Fernie, in 1938, there were 11 hotels of which one was half open.

MR. DOWLING:

Your comments on zoning, it seemed to me, indicated that in your view there should be zoning which in some cases permitted quite limited or even specific uses, in other cases a variety of uses, and in other cases what is generally called multiple use. Did I infer correctly?

DR. HARPER:

I personally do not like the term multiple use. I avoided the term primarily because certain uses preclude others. In our brief I hope I got the point across that the prime use was the watershed use, and that other secondary uses that may be compatible with this could be considered. Does that clarify my point?

MR. DOWLING:

Yes, I assumed that. But were you not still suggesting that you were considering a zoning principle?

DR. HARPER:

Yes.

MR. DOWLING:

How would the zones and the uses they could be put to be decided upon?

DR. HARPER:

Public input, possibly in a similar way to the regional plans. Have a group of people with expertise in the specific areas; develop the plans; get feedback from them; and make necessary adjustments to suit things that have been overlooked.

MR. DOWLING:

So it would be something like broad guidelines within which regional decisions could be made on a zoning principle?

DR. HARPER:

This would be a reasonably satisfactory method.

MR. DOWLING:

Do you feel that to achieve such an objective new administrative machinery would have to be invented, or could existing administrative machinery be strengthened and directed towards that purpose?

DR. HARPER:

I'm not really in a position to make a comment on that.



## LAND USE AND RESOURCE DEVELOPMENT IN THE EASTERN SLOPES

Brief submitted by the Oldman River Regional Planning Commission to the Public Hearings conducted by the Environment Conservation Authority - June 1973, presented by: L.O. Smith,

This is a staff report which will be submitted to the Commission for ratification on June 28th, 1973).

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#### INTRODUCTION

These comments will focus briefly on three major, inter-related issues. First, why the Oldman River Regional Planning Commission is involved and should be involved in guiding and regulating land use in the Eastern Slopes. Second, what are the most urgent land use problems facing that portion of the Eastern Slopes lying within the Oldman River drainage basin? Third, what steps does the Commission recommend should be taken to resolve these problems?

#### WHY SHOULD THE OLDMAN RIVER REGIONAL PLANNING COMMISSION BE INVOLVED IN GUIDING AND REGULATING LAND USE IN THE EASTERN SLOPES ?

1. A regional planning commission has a number of functions under the Planning Act.

- (a) Its central function is the formulation of regional planning policies and the implementation of a Regional Plan. The regional Planning Area includes that part of the Eastern Slopes lying in the Oldman River Drainage Basin.
- (b) It is the approving authority for subdivisions throughout the Regional Planning Commission area.
- (c) Municipal authorities have the delegated power from the provincial government to regulate all land use and development

within their borders. It is the responsibility of the Regional Planning Commission to advise and assist all municipal authorities in the planning region on planning matters including the adoption of land use regulations and the preparation of general plans.

- (d) A further function of the Commission is to promote public interest in the planning of orderly and economical development of the regional planning area.

2. A Regional Plan is based on a number of extensive studies and surveys and its main objectives are as follows:

- (a) To identify present and future functions (social and economic) of the region, its sub-regions and communities.
- (b) To identify present and future trends relating to development and life styles.
- (c) To identify priorities for public and private investment in order to promote orderly and diversified development of the region and its resources.
- (d) To encourage the creation of an environment that provides for the health, convenience, and satisfaction of the people in the region.
- (e) To promote the establishment of a buoyant economy offering a diversified range of employment opportunities.
- (f) To determine the most suitable land uses for all areas within the region.
- (g) To provide for a convenient and efficient transportation and communication system that is complementary to the diversified needs of regional development.

(h) to outline methods, for the implementation of goals and policies.

3. Future land use and development in the Eastern Slopes is of importance to the planning region for the following reasons:

#### WATER

The Oldman River and its tributaries are the lifeline of the whole region and its agricultural industries, particularly the irrigated sector. As the drainage system originates in the mountains and foothills area it is essential that any development has regard to the need to safeguard the key watersheds in the foothills and mountains. It must be stressed that the conservation of the region's water supply is paramount.

#### RESOURCES

Virtually all the non-renewable resources in the region are located in the Eastern Slopes. Although they contribute significantly to the economies of the communities in the study area, they have also tended to be a recurring source of conflict with other land uses. Among the non-renewable resources, the production of livestock accounts for roughly half the total value of agricultural production in the region. The extensive grazing lands in the study areas are a renewable resource that contribute significantly to this industry.

#### RECREATION AND TOURISM

The mountains and foothills area has by far the greatest potential for development for recreation and tourism serving not only the regional population, but also an ever increasing number of people from outside the region.

## CONSERVATION AND PRESERVATION

In addition to the fundamental need to conserve the watersheds, many of the region's most important historical and archaeological sites, most of its wildlife population, and some of the most attractive and unique geological formations and ecosystems lie in the mountains and foothills. These are assets to the region as a whole.

WHAT ARE THE MOST URGENT LAND USE PROBLEMS FACING THAT PORTION OF THE EASTERN SLOPES LYING WITHIN THE OLDMAN RIVER PLANNING REGION ?

Numerous specific problems can be articulated and other briefs being submitted at these hearings describe them in considerable detail. From a regional planning perspective we feel that they can be summarized by suggesting that demands for a variety of land uses must be accommodated in a manner that will minimize conflict and maximize the benefits for all residents, not only of the study area, but the region and the province. To recapitulate briefly, these land uses involve ever increasing demands for water; non-renewable resource development; renewable resource development; recreational amenities; and the conservation and preservation of our natural and historical assets.

Before this goal of minimizing conflict and maximizing benefits can hope to be achieved, a second major problem area must be overcome. At present any one of the land uses cited affects or could be affected by a multitude of public agencies. Their jurisdiction may cover either a particular geographical area or a particular function affecting land use. It is crucial that the decisions of these various agencies be coordinated and made to harmonize with one another.

The third major problem area, in our judgement, is the fact that the

Eastern Slopes of Alberta form only a small part of the Rocky Mountains which extend all the way from Alaska to Mexico. These mountains contain an immense recreational system consisting not only of several world famous national parks, but also numerous other areas used for recreation, such as forest reserves and state and provincial parks. The millions of people who use this recreational system every year are not concerned with the multitude of jurisdictions that exist within the system. We feel the role of the Eastern Slopes as a part of this larger system must be considered in the evolution of any new land use policies.

#### RECOMMENDATIONS

1. Recommendations emanating from these hearings will obviously influence future provincial policy. From the perspective of rational land use planning, we would like to stress that whatever policies are ultimately adopted - at whatever level of government - they should be preceded by, and evolved in the context of a set of clearly articulated goals and objectives.
2. That, coordination and integration of decision-making at various levels of government is vital and that better use be made of existing institutions such as interdepartmental committees at the provincial level and regional planning commissions at the regional level.
3. That, the Provincial Government take the initiative in promoting a total study of the Rocky Mountain System with emphasis on present and future recreational supply and demand. To be effective, such a study would require the support of Federal, Provincial, and State agencies in both Canada and the United States.

4. That, the Federal Government be requested to make public their views and plans for our national parks and how they envisage the relationships of the parks with adjoining areas. This is necessary in order that National Park policies be properly integrated with provincial, regional and local land use planning.

5. That, the Provincial Government ensure that all existing and proposed standards for the regulation of exploration and development activities in the Eastern Slopes area be rigorously enforced.

6. That, pilot studies in selected areas of the Eastern Slopes should be initiated to examine the social, economic and environmental costs and benefits of various land use strategies. An example of such a strategy might assume that tourism and recreation were to be given priority over resource industry in a particular land use development plan for a selected area.

7. It is assumed that these hearings will culminate in new provincial policies for land use and development in the Eastern Slopes. It is recommended that a comprehensive Land Use and Development Plan for the mountains and foothills area of this region be prepared as soon as possible as part of the overall Regional Plan. The Land Use and Development Plan would take into account the proposals and policies resulting from the hearings and other necessary land use studies such as the Foothills Resource Allocation Study.

8. The aforementioned plan would examine unique problem areas in great detail, including the Crowsnest Pass, the area in the vicinity of Waterton Lakes National Park, and possible locations for new town sites.

9. As it is recognized that it will be some time before the various studies and comprehensive planning projects described can be completed,

interim policies will be proposed as soon as possible after the hearings in order to accommodate immediate demands for land use and development and to effectively control development in the interim period.

10. That, access to and within the mountain and foothills be planned in accordance with the overall Development Plan of the area and be linked to and integrated with an overall transportation system for the entire Rocky Mountain area. This is not meant to imply that all areas of the mountains and foothills should be accessible to vehicular traffic.

11. Although solutions to any of the conflicts which may occur between recreational activities and renewable and non-renewable resource development activities have yet to be formulated, it is recommended that these uses be segregated from one another wherever possible. One example which could be implemented in the near future is the segregation of resource traffic from recreation traffic on certain roads.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

One of the concerns expressed to us by members of the agricultural community in the last few days has been the selling off of small two or three acre land parcels. I understand that within the scope of your general plan there is some pretty solid guidance as to what sorts of land parcels are going to be allowed for sale. I'm talking about the essential agricultural area budding on the foothills. Could you tell me what these plans entail?

MR. SMITH:

Yes, I could. Several of these policies will be proposed in the regional plan which will be made public on June 28. Some of the policies are already public knowledge. It is proposed that the minimum acreage for agricultural parcels would be 80 acres. There may be certain exceptions for intensive agriculture, provided the Department of Agriculture recommends that this would be suitable for a certain area, taking into account soil type, accessibility, et cetera.

Regarding small two to three acre parcels I think one thing which people may be misunderstanding is resort areas, country residences, that type of thing. We are going to suggest policies for siting country residences in certain areas. These should be properly planned according to criteria that will be set out.

MR. KINISKY:

How much public input is there to the derivation of a general plan? Do the regional planning commissions allow input from the residents within the planning commission area?

MR. SMITH:

Yes, they do. In my opinion, there should be more public input than we have had in the past. Our own plan, for example, has been prepared over a period of two years. We have had a number of semi-public meetings, and a public meeting about a month ago where the outline of the plan was discussed.

MR. KINISKY:

I noticed two things in the functions of the planning commission that seem to be a bit conflicting. One is the provision of as buoyant an economy as possible, and the other is the preservation of an acceptable lifestyle. From the previous submissions, there seems to be a difference of opinion as to whether we can continue having a buoyant economy and carry on with the matter of preservation in a meaningful way.

Are you more optimistic that we can actually accommodate both points of view?

MR. SMITH:

I think they can be accommodated, providing they are properly planned. I am not advocating that one necessarily should have resource development, recreational development or something else in certain areas. I think one still has to assess the relative merits of each and how they affect the economy and the lifestyles.

MR. KINISKY:

There are certain major activities which take place in your planning commission area over which you have no control, such as the location of highways, transmission lines, et cetera. Do you find that this rather stifles your ability to carry out your planning process?

MR. SMITH:

Yes, I do. But one of the considerations of the regional plan is communication and transportation, and before a regional plan is adopted, it must be approved by the Provincial Planning Board. Presumably there may be a possibility of getting this type of input from everyone concerned.

MR. KINISKY:

You've suggested that there may have been some lack of cooperation between various departments of government. Without mentioning any specific instances, do you find that this is indeed happening?

MR. SMITH:

Yes I do, but less now than in the past. I would say that things are improving, but they could improve more.

MR. DOWLING:

Obviously it is a problem, and you have mentioned this in your brief, that decisions between various agencies have to be coordinated and made to harmonize with one another. In preparing this brief, did you come across any possible solutions to this particular problem?

MR. SMITH:

I have certain personal opinions on this. I feel that perhaps we have too many coordinating committees. I think that coordinating committees are necessary at all levels of government, both vertical and lateral, but I think there is a considerable overlap. I think that could be improved.

MR. DOWLING:

What concerns me is that there can be so many agencies which have jurisdiction in a specific area, and that there can be so many coordinating committees that everybody is meeting but nothing gets done. Is this the case?

MR. SMITH:

What you describe is an extreme, but I think it is partially so.

MR. DOWLING:

Could you advise us as to what percentage of potential leases for coal and gas development has been committed in your own planning area?

MR. SMITH:

I couldn't say, and I don't know whether there is anyone here who knows.

MR. E. J. NICHOLSON: [From the Floor]

Over 50 per cent.

MR. DOWLING:

Over 50 per cent of the potential.

Could you touch upon the changes that might be necessary within your own organization to improve its effectiveness as a planning agency?

MR. SMITH:

One thing would be better coordination between all levels of government. Another would be that commissions have more authority for implementing certain aspects or certain things. One suggestion which has been made by the commission is that a regional parks board be established which would coincide with the commission.

MR. DOWLING:

Do you have any ideas about possible changes in the planning commission boundaries? Would this assist you in any way?

MR. SMITH:

I feel that the Oldman River region has extremely logical boundaries in many respects. Perhaps part of the area on the northern side is more within the sphere of influence of Calgary. But I do feel that it's fairly logical to stick to existing local municipality boundaries. I don't know about the other regional planning commissions, but certainly in this region I think the boundaries are satisfactory.

MR. DOWLING:

In your brief you stated that it was one of the duties of the commission to give advice to municipalities with respect to planning. Do these municipalities as a rule take your advice?

MR. SMITH:

Not in all cases.

DR. TROST:

Mr. Smith, we're obviously interested in the question of the breakdown and the delegation of authority and responsibility for land use and resource development in the eastern slopes among the province, the district planning commissions, and the municipalities and towns. Would you describe to us the kinds of authorities that now reside at these three levels?

MR. SMITH:

The municipality is responsible for adopting general plans, for zoning by-laws and for developing control by-laws. Generally the commission in this case advises the municipality. The regional planning commission is the approving authority for subdivisions. It could override the recommendations of the municipality on subdivisions. But all applications for subdivisions can be appealed to the Provincial Planning Board. So certain decisions of the commission can be overruled at the provincial level.

The regional planning commission is responsible for preparing a regional plan. This must have the approval of two-thirds of all the members of the commission before it is adopted. Before it is law, it has to be approved by the Provincial Planning Board. The province keeps control, and I think rightly so, so that it can coordinate a given plan with what happens in other regional planning areas.

DR. TROST:

What elements of land use and resource development are encompassed by those decisions and actions?

MR. SMITH:

I would say just about all elements except things such as utility rights of way. There are certain areas in the forest reserves where there is no subdividing; these are not referred to the planning commission for comments. But presumably once there is an adopted regional plan, then they would have to be.

DR. TROST:

Would such things as subsurface resource development, recreation and tourism proposals on Crown land and watershed protection be referred to regional planning commissions?

MR. SMITH:

Not in the past, but I think that with the adoption of a regional plan, it could be so.

DR. TROST:

You, of course, have been working in regional and district planning for some time. Can you tell us the present state of development of these plans?

MR. SMITH:

I would have to say that for a number of reasons regional planning has been extremely slow. As regards general plans for municipalities, the opposite is probably so. The main reason regional plans have been slow is that membership on regional planning commissions is voluntary. As a result until say two to three years ago, the membership of most regional planning commissions, and particularly our own, was extremely fragmented. Only since the change in The Planning Act regarding a planning fee levied on all municipalities and collected by the province, have most municipalities been members of commissions. Since that time our own regional planning commission has been working on the regional plan. The preliminary plan will be submitted to the commission in approximately two weeks.

DR. TROST:

You've said that an important part of any planning process must be effective communication between the several horizontal layers in the process. In the Crowsnest Pass district, for example, there are a series of communities that live closely together, but commonality in their planning does not seem to have been emphasized. How do you stand in relation to that subregion?

MR. SMITH:

I'd like to give you some background on this. Three or four years ago a study was carried out at the Crowsnest Pass by the regional planning commission under The National Housing Act. It was to be an urban renewal study, and the development of the whole area was taken into account. Unfortunately this study was closed, or shortened shall we say, without making a final recommendation, because of changes in federal government policy for one thing.

One of the recommendations of that study was that a local government study group be set up to consider the possibilities of either amalgamation or of other means of government control in the Pass area. This study has been under way for about two years, I think. It's been extremely slow, but it has been working. I'm not sure whether the results will be positive or not. But even if no amalgamation takes place, from a land use point of view the area is a part of a whole and should be planned as such.

DR. TROST:

Are there other subregions within your district that have the same internal integrity and need to be considered in this way?

MR. SMITH:

Yes. I would say that other subregions are not as closely related as the Pass communities. But one of the recommendations we are making in the preliminary regional plan is that a study be carried out of the Lethbridge environs. This might include an area of 20 miles around Lethbridge because this area is very closely related in many ways too.

DR. TROST:

Would it be sensible that from time to time, and this may be many years, some of the boundaries of these local jurisdictions be redrawn to make them commensurate with the current circumstances?

MR. SMITH:

Yes, it's possible.

DR. TROST:

Do you feel that additional organized attention should be paid to the protection of watershed basin integrity in the Oldman district?

MR. SMITH:

Yes. Perhaps I could go back to your previous point again. Another reason for regional planning commissions, and perhaps the primary reason behind them from the start was that each area would largely coincide with the sphere of influence of a city or other large community, which is the case in all but perhaps one.

DR. TROST:

On the question of protection of the watershed basin as a water resource, do you feel there is any need for an additional entity that has administrative responsibility for protecting the water resource in these watershed basins?

MR. SMITH:

I think this is possible, however it should be related very closely to other authorities such as the regional planning commission.

DR. TROST:

How should it relate to the regional planning commission?

MR. SMITH:

I think anything that relates to the development of an area should be directly related to the regional planning commission. But looking at it purely from a water resources point of view, there are certain specialities required which regional planning commissions probably don't have. What you could do in that case would be to have, as we do at the present time, certain government organizations represented on regional planning commissions. For instance there is a member of the Water Resources Branch on our commission.

DR. TROST:

What responsibilities do you feel should properly fall on the provincial government in the development of province-wide regional planning?

MR. SMITH:

I feel that the province should set broad policies for, say, the whole of the eastern slopes. But as I mentioned before, I think they should look at the region within the greater context of the national parks in particular, and of what goes on in other provinces. They should set the framework, and the details should be studied at the regional level.

DR. TROST:

Do you feel that the present statutes governing regional planning commissions are sufficient if they are properly implemented, or that there may be a need for new legislation reassigning or strengthening authorities?

MR. SMITH:

I think the present Act has been reasonably satisfactory in the past, and certainly it was very forwardthinking in its time, but I think there is a need for a certain amount of improvement. This is being studied at the present time, and I think the government does intend to bring in a major revision of The Planning Act.

DR. TROST:

Do you wish to indicate the nature of these revisions in your own view?

MR. SMITH:

One thing is the need for coordination. I think there is a need for progression from the province downward with someone setting broad policies for provincial development, and the regions working within those policies. Also, it would probably be better if they had certain implementing powers within that.

DR. TROST:

You mentioned the need for coordination with the national parks and also with the United States, and I assume with the other side of the Rockies as well.

MR. SMITH:

Yes, that is so.

DR. TROST:

We ourselves have had informal discussions with these other groups and I feel that everyone feels the same. But how the dickens could we pull it off?

MR. SMITH:

I think someone has to take the lead and I think that this province should do so. It is very commendable that the province is looking at the whole of the eastern slopes, because even that is a much larger area than is often looked at. I think it is a very difficult thing to do because of lack of coordination, which is probably true of any country, but I really think it's a must here. We have the Rocky Mountain system and particularly its system of recreation, which perhaps has not really been developed as an integrated system, but does affect the whole North American continent.

DR. TROST:

Do you have any informal or indirect communication with the people just across the border in Montana with whom we share many problems?

MR. SMITH:

No, we have none.

DR. TROST:

You do recognize the similarity of the problems?

MR. SMITH:

I do recognize the similarity in that the whole Rocky Mountain system can be recognized as an entity. But the part of the Rocky Mountains within our area is different in that it is divided from Montana to a certain extent by a federal park on either side. Also, looking at the rest of the region, an international boundary is a considerable barrier in many respects. But I do feel there is a need for more coordination.

DR. TROST:

Is there any movement across the border, both north and south, that leads to land subdivision and that kind of development?

MR. SMITH:

Very little, I would say.

MR. DOWLING:

Would you elaborate on the statement on page six of your brief that "pilot studies in selected areas of the eastern slopes should be initiated to examine the social, economic and environmental costs and benefits of various land-use strategies."

MR. SMITH:

What I would like to see done is that in an area that is to be given over to both resource and recreational uses, we try to work out what would be the social, economic, and environmental effects of each. I don't think we can make any real, quantitative judgments unless further research is done on this.

MR. DOWLING:

My last question concerns the statement by CanPac Minerals Limited that they have mining interests on Isolation Ridge and may require a townsite to support that mine. Have you had discussions with that company concerning that townsite?

MR. SMITH:

No, we have not.



BRIEF FOR  
ENVIRONMENT CONSERVATION AUTHORITY  
HEARINGS ON  
LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

Presented by:

Gene Scully  
115-13 St. So.  
Lethbridge, Alberta

Gentlemen:

My name is Gene Scully. I am a life member of the Lethbridge Fish and Game Association, a life member of the Alberta Fish and Game Association, and currently, chairman of the Fish Committee of the Alberta Fish and Game Association. I make these statements as a hunter and fisherman who has used the eastern slopes of the Rocky Mountains for some of my recreation.

Thousands of hunters and fishermen use this area for recreation purposes and, on their behalf, I am protesting further commercial development here. There are more people every year who are finding enjoyment within the forest reserve boundaries. The eastern slopes are fast becoming the only public land within reasonable distance of our urban areas.

I believe that it is imperative that all the reserve area remain primitive and public for future generations. It could well be Alberta's greatest asset in future years.

Originally, the prime reason for preserving the eastern slopes was to ensure the greatest possible amount of clean water feeding our rivers. It was due to the foresight of the early planners that this area was closed to settlement and the Forest Act was used to protect the area and ensure clean water. Is there any reasonable explanation as to why we should abandon these aims now?

It has been suggested that strip mining will take place in the Alpine areas of the Old Man River drainage. It has also been suggested that fish and wildlife personnel will be making a survey to evaluate the effects of such a venture. These two suggestions would indicate that the Government has entertained the idea of allowing strip mining to

be carried on in the area. We should all be aware that strip mining in Alpine areas will cause more damage than benefit and it is impossible to reclaim an Alpine area to its original natural state.

National Parks allow the public to see the most beautiful of our mountain scenery from the automobile or from public transport. I believe that there should be areas in the mountains which have restricted ease of access, and that private recreational projects should be restricted to the east-west corridor now existing through the mountains, and to areas outside the forest reserves.

I also suggest that the forest trunk road should remain as was originally intended: to give better access to Forestry personnel in protecting the reserves from the disastrous fires that plagued these parts before the road was built.

For these reasons I believe that we still need an act by the Legislature to protect the people's interest in the eastern slopes of the Rocky Mountains. I also believe that new development in the proposed area should be stopped until such an act has been passed. Failure to do so would only make a mockery of these hearings and would be of no service to the people of Alberta.

Thank you for the opportunity to convey my feelings on the land use and development on the eastern slopes of our Rocky Mountains.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Do you feel we will ever be able to extract resources and still maintain some sort of regional ecological balance in the foothills?

MR. SCULLY:

Possibly in some areas it would be technically feasible in the future. I feel that the prime interest in keeping our eastern slopes is clean water. Anything that detracts from that prime interest should be stopped and every opportunity given to evaluating what is or is not going to be a benefit to that goal.

MR. KINISKY:

If it could be proved that the extractive industries could indeed carry out their operations without causing a serious depletion of our water resource, would you then be prepared to accept their presence in the foothills?

MR. SCULLY:

It isn't the diminishing of our water resources. It is that I want them to be kept clean. If any resource development will insure that it isn't going to change that, I don't see any reason why it should not be implemented.

One of the greatest problems is allowing something like that to become so involved that there is no more wilderness, no more actual ecological eastern slopes as we know it today. I feel in the future the recreational aspect of that particular area will grow to such an extent that it will really be one of our greatest assets in the province.

MR. DOWLING:

From your experience in the area, are there any improvements which should take place in the recreational use of the eastern slopes for hunters and fishermen?

MR. SCULLY:

I don't think that there should be any more development in the reserve proper at this time. I feel that any development should be made outside the reserve area completely and that any future development of private recreational facilities should definitely be outside the reserve area. The reserve should be open to anyone who wishes to use it with the facilities that are available. I feel that a good many portions of the area should be very restricted, possibly to foot traffic only. I think the only way to insure that this is going to be possible is through an act so that everyone will be aware of what the uses of the area will be.

DR. TROST:

The last version of The Wilderness Areas Act defined wilderness areas as areas that could not be entered for hunting or fishing purposes. What is your reaction to that kind of legislation?

MR. SCULLY:

I feel that any of the resources in an area should be used to the fullest extent as long as this is not going to affect future numbers or the ecology of the region. If it will, then I feel that the necessary steps should be instituted to protect that area. But I don't feel that it is necessary all the way through. I think that it has to be more or less set up on a regional basis. I do think that the guidelines still have to be legislated.

DR. TROST:

So in some cases this kind of legislation would have met with your approval, depending on the area?

MR. SCULLY:

Yes, definitely.

SUBMISSIONBY SCURRY-RAINBOW OIL LIMITEDPRESENTED BY: D.M. LANEREGARDING LAND USE AND RESOURCE DEVELOPMENTIN THE EASTERN SLOPES (LETHBRIDGE HEARINGS)

*Scurry-Rainbow Oil Limited was incorporated under the laws of the Province of Alberta in 1954 to carry on the business of exploring for, developing, producing and marketing petroleum and natural gas. Its corporate head office, which is owned by the Company, is located in Calgary. All officers and key personnel are residents of the city of Calgary.*

*Although the prime function of the Company is petroleum and natural gas, land development, producing, and marketing, capital expenditures for the year ending September 30, 1971 on mining properties, predominantly for metallurgical coal exploration and development, exceeded that spent on petroleum and natural gas developments.*

*Cumulative capital expenditures on coal properties from 1965 to the end of 1972 were nearly five million dollars, of which over 3.4 million dollars were spent on direct exploration costs. Over two million dollars have been spent in coal property acquisition and exploration in the Oldman River Drainage basin or about one and one-half dollars for every man, woman, and child in Alberta.*

*The exploration techniques used attempted to obtain the maximum information possible with the least surface disturbance. Every test hole was cased and diamond cored from surface to total depth and continuous gamma ray, neutron and density logging devices were used to*

insure maximum information and to determine the upper and lower limits of the coal seams where portions of coal seams were not recovered by coring. All core remaining after sampling has been retained in well marked boxes under cover for present and future re-examinations. No expense was spared in obtaining the most complete information possible. We consider our money wisely spent, but this could not occur without considerable long range planning and management policy. Optimum results - optimum use - we hope so.

The results of Scurry-Rainbow Oil Limited's coal exploration program indicate coal reserves of over 360,000,000 tons of metallurgical coal amenable to open cast mining.

Open cast or strip mining is considered in some sectors to be a dirty word. However, when considering the optimum utilization of a non-renewable resource also consider that the world trend is to open cast coal. Why? Firstly, consider underground accidents per ton of coal produced to that of open cast operations. Only rare multi-death accidents occur in open cast operations whereas in conventional underground mining multi-death accidents are common. Secondly, in our steeply pitching coal measures of the eastern slopes in mechanized underground mining of coal only portions of the thicker seams can be recovered, in addition pillars are left. Thin seams in highly inclined seams are not recovered at all due to economics. Faulted areas may result in additional coal blocks being left in place. The total result of coal recovery of seams three feet in thickness and over is that in most cases it is considerably less.

*In open cast mining over 85% of the coal can be extracted. Thirdly, it is becoming increasingly difficult to obtain underground personnel to work in these pitching seams - the ones we have are all specialists.*

*What is the optimum utilization of our coal resources, less than 40% or over 85%? When you consider human lives plus more than twice as much of a resource (coal) for disturbing ground which can by present methods be restored to near former contour and in many cases be made to provide additional benefits such as recreational lakes, fishing and artificial water storage, in addition to tree farms and grassy slopes, in time, with care, producing more forage than they ever did. Some of the most beautiful areas in the world are the results of tree planting of worked over areas.*

#### OLDMAN RIVER DRAINAGE BASIN

##### COAL EXPLORATION

*To date 2.1 million dollars have been spent from the time of acquisition of coal properties, in the Oldman River Basin, to the end of 1972. Scurry holds coal rights to 50,738 acres and supporting surface rights to another 8,174 acres in the Oldman River district.*

*Diamond drilling totalled 31,900 feet in 54 test holes. Nineteen adits totalling 3,620 feet of tunnelling and 45 miles of access roads were completed as of December, 1972.*

*Work was concentrated in two areas, one known as Grassy Mountain, which has been previously strip mined, located some five to eight miles due north of the town of Blairmore and the other known as the Oldman*

River Property, located some 35 miles north of Coleman. Sufficient open cast reserves from these two areas are indicated to provide coal for each of two separate mining operations of 2 million tons clear coal per year - standard 15-year contract.

The Grassy Mountain Property entails the mining of some 680 acres of a previous open cast mined area, therefore, this potential operation, if it proceeds, could, with planned reclamation, leave it in far better condition than it is at present. Acreage of geologically planned pits is 680 acres.

The Oldman River prospect can be mined exclusively on the west or dip slope so than minimal exposure, if any, of the operation would be seen from the Kananaskis Forestry Trunk road to the west. Another leg of the Kootenay coal measures masks the open pit area on the west side where it has been cut by a small intermittent creek, forming a unique natural catch basin, which can be easily developed in to a large settling pond for silt and water-carried sediment.

We do not consider that a townsite is required or desired for either the Oldman (35 miles North of Coleman and Blairmore) or the Grassy Mountain operation. At present miners are being bussed from Hillcrest and Bellevue to Kaiser's operation some 30 miles to the base camp. However, another 5 miles uphill, some three to four thousand feet, must still be ascended to the work areas. Work shops, etc., will of course be required. The pressure of population will be minimal under these circumstances.

Coal reserves to obtain 30,000,000 tons of clean coal will require mining out an area of 800 acres. Present surface cover is largely immature jackpine with large areas covered with talus. Local species of jackpine can be re-established to assist growth of commercial spruce or timber. It is thought that the pine cover in 30 years would reach a height of 30 feet, therefore, the areas first mined of a 15-year operation should, with tree planting, be covered by 30-foot pine some seventeen to eighteen years after the end of the 15-year period.

The combination of raw materials, gas, electricity, and railroad transportation, plus a work force in the Crowsnest Pass forms a natural convergence of most factors for processing raw materials within Alberta which can create a broader and more stable industrial base and provide gainful employment for increasing numbers of Albertans.

#### Eastern Canadian Market

The metallurgical coals of the Oldman River Drainage basin are located some 100, 300 and 500 miles closer than coals from (respectively) Canmore, Luscar and Smoky River to the domestic eastern Canadian metallurgical coal market of over 6,000,000 tons per year. The gap between the delivered cost of Western Canadian metallurgical coals is being narrowed due to rising world prices, the devaluation of the dollar and comparatively increased costs of underground mining of metallurgical coals in the U.S. over open cast Canadian metallurgical coal mining costs. Estimated transportation cost, rail and barge, for Western Canadian coal to eastern markets are at least equal to or in excess of the F.O.R. price

presently received for western metallurgical coals or over \$12.00 per ton. Should U.S. metallurgical coal cost per ton rise to \$27.00 per long ton delivered and freight and barge rates set at \$12.00 per long ton, western coal would be competitive, or if the delivered price is \$25.00 per ton and the freight rate \$10.00 per ton, a growing \$150,000,000 per year domestic coal market is possible. A domestic metallurgical coal industry including western coals would safeguard against the dependency on the present Japanese export market.

In conclusion we respectfully submit that:

- (1) The metallurgical and other coal development of the Oldman River Drainage basin should form a highly ranking contribution to an overall optimum resource use program for the Oldman River Drainage Basin.
- (2) The optimum time for the development of metallurgical coal is now for production within the next 20 years, before technological changes may make it obsolete in steel production.
- (3) That metallurgical coals from this area have a significant distance advantage for supplying metallurgical coal to Canada's eastern domestic market should this market develop competitively or through freight rate adjustments, subventions or an east-west domestic trade arrangement. Western coal developments has benefited eastern Canada manufacturers with large orders for railroad cars, diesel engines, new track and steel components, *inter alia*. Therefore, a total local-regional, national and international optimum resource

use concept must be considered, along with a strong domestic metallurgical coal industry, where transportation rates would make up for nearly 50% of the sale price of a raw or partially processed product.

Negative Detrimental Policies - cloud coal development in the Rockies to the west. Let not the westerly winds carry these clouds to Alberta where the metallurgical coal industry has spent several hundreds of million dollars to develop this resource into a competitive industry. To date the industry in Alberta is struggling to survive, to develop into a strong and profitable industry. Until it does, this industry requires the co-operation of the railways, who receive nearly one-third of the revenues received, government, industry, and most of all the co-operation of people of the province of Alberta, both public and private.

Of the coal being exported to Japan at the present time less than one-third comes from four Alberta mines whereas over two-thirds of the total is being shipped from mines in British Columbia. The only major coal operation in Alberta that is meeting its contract commitments is an open cast operation. Other mines are closing down unprofitable underground operations in favour of strip operations. Coking or metallurgical coals, because of a unique property (coking strength) command at present a delivered price of about \$22 to \$27 per long ton in Japan. As each long ton of coking coal contains about 28 million

BTU's the Japanese are paying between 79 and 96 cents per million BTU's, at the present time. In comparison, one barrel of crude oil contains 150,000 to 160,000 BTU's and is presently being sold for about \$3.60 per barrel at the export point to the U.S. or about 62¢ per million BTU's. The delivered price of crude oil is expected to rise to \$4.00 per barrel (or about 69¢ per MMBTU's during 1973. Natural gas exports to the U.S.A. returned about 31¢ per Mcf (about 1,050,000 BTU's) or less than 31¢ per million BTU during 1972. This price is about one-third of estimated replacement costs by Arctic gas, liquid petroleum gas imports or gas from coal.

Both crude oil and natural gas have a universal use, however coking coal has only one basic use, that is in smelting iron ore. Therefore, technological advances in iron ore reduction techniques could reduce the value of coking coal to near that of thermal coal, which is at present some 12 to 15 cents per million BTU's (Alberta thermal coal - certainly one of the lowest energy costs).

The comparisons of the price received per unit of heat value (MMBTU's) of coking coal, crude oil, natural gas and thermal coal have been presented to help support our contention that every immediate effort should be made to foster our fledgling coking coal industry into a strong and healthy resource industry for the optimum benefits of Alberta and Canadians.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

You made the extremely intriguing statement that some of the old worked-out coal areas have now become some of the real beauty spots of the world. Would you tell me where some of them are - I'd like to see them?

MR. LANE:

Well...geologically...Grassy Mountain is a very beautiful place. This is one of the areas that I mean. Grassy Mountain has about five strip pits. If we were to proceed with an operation there, we could probably do quite a bit to reseed and make Grassy Mountain "grassy." We'd like to see more grass on Grassy Mountain, eh?

MR. KINISKY:

You say with considerable confidence that you feel there is no possibility that you can't re-establish some reasonable vegetal cover after you have carried out a mining operation. Yet I am not aware of any place in Alberta where reclamation, begun five years ago, has borne that out in any way. Why are you so confident that you can do it?

MR. LANE:

I'm not confident we can grow vegetation where it has not grown before. But in the areas where there are trees, I think it can be done. We have reseeded areas. There are some trees being experimented with on the north side of Grassy Mountain by a land-use officer, Mr. Ganske. Some of these trees are showing fairly good signs of progress.

MR. KINISKY:

You pointed to the fact that after fires, jack pine had been reintroduced into burned out areas and had reached a height of 30 feet, and you used this to support the theory that you could have jack pine growing to 30 feet again in 30 years. I'd like to point out that the difference is that the surface soil was not disturbed. Organic materials were left on the top. Are you proposing that you are going to be storing what available organic topsoil there is and replacing it after the normal mine fill?

MR. LANE:

Well, there is very little organic cover on most of those slopes. I don't know just how to answer that.

MR. KINISKY:

We've just listened to a brief from CanPac about development on Isolation Ridge, which is encompassed by the Livingstone River and the upper reaches of the Oldman. These are two of only three rivers in Alberta which are rated as number one trout streams under the Canada Land Inventory. Now we have your proposal. If this type of development proliferates in this area, is there any possibility that we can save these two fine trout streams for future generations?

MR. LANE:

Well, this is something that will have to be weighed, value for value. CanPac showed the high value per acre that the coal can bring. If the two operations are close together, it will at least limit them to one small area.

MR. KINISKY:

How much would you guess those two fine trout streams are worth over the next 10,000 years?

MR. LANE:

How can you place a value on...?

MR. KINISKY:

Invaluable, I'd say. In any case, there is one other thing I'd like to ask you. What could possibly happen, in your estimation, that would make the use of metallurgical coal obsolete in the steel industry?

MR. LANE:

Formed coke is presently being experimented with. Lower grade coal is processed into a formed coke and this allows breathing within the iron ore for reduction of steel.

MR. DOWLING:

Your company has an opportunity to sell metallurgical coal into a market which is either overseas or domestic and by so doing to serve its own purposes. But why should Albertans support such an undertaking?

MR. LANE:

First, it would benefit the people in the Crowsnest Pass. Would not such a development provide gainful employment in the future for the growing children within the district? Would not such a development cut down the long bus rides presently enjoyed by some of the Alberta Crowsnest Pass miners presently commuting to the Kaiser operation in British Columbia? Would not such a development benefit local business in the Crowsnest Pass? Would not such a development foster the clean-up of old mine sites? Would not such a development create secondary industries and provide a broader tax base and help keep some of your loved ones close to home? If the people of the Crowsnest Pass believe that such a coal development is compatible with a multi-use concept of land, their private and public support is respectfully solicited.

Secondly, on a regional, provincial and national basis, this undertaking would mean continuing support through east-west freight rate considerations, continuing economic studies of possible benefits to Alberta and Canada and the fostering of the use of western Canadian coking coals in the steel industry in eastern Canada, which is presently consuming about 67 million tons of coking coal alone per year. This is presently imported from the U.S. at a cost of about \$150 million per year. This would help our balance of trade.



Brief presented by the Archaeological Society of Alberta, Lethbridge Centre, to the Environment Conservation Authority at the Public Hearing held at Lethbridge, June 13, 1973. Presented by Dr. J.F. Domaar.

Re: Land Use and Resource Development in the Eastern Slopes

We would like to voice our concern about the historical and archaeological resources in the Oldman River Basin. The basic data of archaeology are largely artifacts made by humans and material of natural origin, derived from plants and animals, used by humans. By their nature, and in fact because of the circumstances under which they are found, these archaeological materials are very closely associated with the general environment in which they developed, and especially with factors which are responsible for their having been covered up. Archaeologists cannot fully interpret prehistory from the artifacts they unearth unless they consider the characteristics of the situation in which the artifacts are found.

Natural destruction of sites occurs all the time. However, under multiple use it is going to be the man-caused destruction that causes our concern. It becomes a matter of salvage or preservation. The rush to get the fieldwork done ahead of the bulldozer creates special problems. Often areas are to be investigated which are very poorly known, and archaeologists often go to work without benefit of adequate problem orientation. It would thus be helpful to allow preliminary archaeological surveys in areas where mining companies will operate or future recreational areas are going to be established. With the pending protective legislation it will also be possible to set a site permanently aside or to allow a longer time for excavation and evaluation.

Whatever the use of a particular area we urge you to be cognizant of the presence of possible archaeological and historical resources.

*J. F. Domaar*  
President, Archaeological  
Society of Alberta,  
Lethbridge Centre.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Dr. Dormaar, is there ever a time when you want to carry out archaeological expeditions in which you are in any way troubled about access to lands which are held under lease by the extractive industries for exploration purposes?

DR. DORMAAR:

I just want to make one thing clear. I am not a professional archaeologist. I'm talking here of an amateur group, and if I say certain things in relation to archaeology it's because I have a certain amount of liaison with the archaeologists. As far as I know, they have thus far had very few problems in getting into areas to do their explorations.

MR. KINISKY:

When we are talking about the possibility of developing one of our non-renewable resources, approximately how long would it take to do an archaeological evaluation of this resource before any real work was done in the extractive industries?

DR. DORMAAR:

Let me go back for a moment to the problem we encountered in the Bighorn Dam area. This was a typical salvage operation, and a number of pits were prepared by the professional archaeologists of the University of Calgary. I happened to work for the federal Department of Agriculture Research Station. We came in to look at the soils which were covered up in these sites. We had no idea what was going to be there, so after we sampled and analyzed the material over the winter we came to the conclusion that further work was necessary and further samples were required.

In this particular case we were able to go back, relocate in another site and solve the problem. But sometimes it may not be that simple because it may have to do with trade relationships. For example, a certain amount of material may be found that has been obtained from other areas. Can more of this material be found? You don't know these things before you go in and before you actually start to dig.

MR. KINISKY:

So you are actually talking about a considerable time period to do a proper archaeological evaluation?

DR. DORMAAR:

There may or may not be. If there is an indication of recreational development or of a mining development in an area, I'm suggesting that advance notice should be given so these non-renewable resources may be looked at.

MR. DOWLING:

Dr. Dormaar, can you advise this audience from your experience approximately how many archaeological and historical sites there are in the Oldman watershed?

DR. DORMAAR:

Not offhand. A number of sites are presently being looked at. In fact, I was just visiting one this afternoon in the Crowsnest Pass which again is a typical example. This was started last year and some very interesting material came up. They are working there as a full crew again this summer. This is an area of major importance, for example around the middle Kootenay Pass or around the north Kootenay Pass. These are major passes connecting the B.C. and Alberta areas. Preliminary work has been done but nothing else.

MR. DOWLING:

Would you estimate that there are hundreds of sites or thousands of sites?

DR. DORMAAR:

In the Waterton area alone, when you are looking at the south Kootenay Pass, between 300 to 400 sites have been looked at.

MR. DOWLING:

You represent an amateur society. Can you tell us if your society has a working relationship with professional archaeologists?

DR. DORMAAR:

Yes we have.

MR. DOWLING:

You carry out field work, I presume?

DR. DORMAAR:

If there's any field work to be done in relation to digging we leave this to the professionals. However, our society is quite active in the mapping of teepee rings where no destruction occurs and information is still obtainable. The latest project is to obtain a photographic record of the quickly disappearing writing on stone in the Writing-on-Stone area.

MR. DOWLING:

So your principal field work then is one of gathering inventory data?

DR. DORMAAR:

Yes.

DR. TROST:

Dr. Dormaar, I remember you participated in the hearings we had on the conservation of archaeological and historical resources some time ago. Our report and recommendations on that have been published, and the legislation which followed from them was passed in this session under the title of The Heritage Act.

Do you feel there are any additional recommendations, revisions to those recommendations, or any additions or revisions to The Heritage Act that might be needed in respect to these eastern slopes?

DR. DORMAAR:

I just received a copy of this Act late last week and quickly glanced through it. One of the things I observed in there is that there is a possibility for expropriation for setting aside of certain areas. This would be satisfactory to me in the area that we are talking about, as long as archaeology can study these areas and extract the material.

Archaeology in itself is destructive. Once a site has been excavated the site is no longer there. So there is no conflict in this particular case unless you are talking in terms of petroglyphs on a rock which could be destroyed. This is non-destructive and can be examined as such. But when it comes to excavating I think legislation is available for that.

DR. TROST:

Has your society had an opportunity to examine the report, recommendations and legislation? If they do wish to make further recommendations might they be able to do so at a hearing in the coming month or in a letter to us?

DR. DORMAAR:

Do we still have an opportunity to study the Act per se and see how it applies to the area, and write to you?

DR. TROST:

Write or make submission. We are having hearings until July 13.

DR. DORMAAR:

This looks very promising and I will try to do so.

## OPEN DISCUSSION PERIOD

MR. KYLLO:

Leo Kyllo, representing the Western Conservation Foundation.

I would like to know whether the archaeological sites have been explored within the Isolation Ridge area. It was mentioned in the brief that there are no sites present and I was wondering if a survey had been done by a qualified archaeologist.

MR. MARSHALL:

Dick Marshall, from CanPac Minerals.

We have had discussions with Dr. Forbis and Dr. Brian Reeves in this respect. We showed them the area of our activities during the exploration phase of Isolation. They felt at that time that it wasn't warranted because the bulk of the work was at such an elevation above sea level that the potential was remote. We have made arrangements with them that it is up to us to contact them the next time we have an active program on the property so that a survey will be arranged.

In addition to this, of course, an archaeological survey of the entire area, including any of the service facilities that would be required, would have to be done in the impact study ahead of any decision actually being made to develop the property.

MR. KYLLO:

The next question concerns the proposed or suggested entrapment of water in mined-out areas. This has been suggested in the CanPac proposal in one instance and I believe by Mr. Lane as well. I have a question as to the viability of trapping this water, in that the underground formations might not be acceptable to hold it. Other problems might come up. What response do you have to that?

MR. LIVINGSTONE:

R. D. Livingstone, of CanPac.

The area up there is quite fragmented and as we go in the tunnels or adits we know that the water is filtering through the mountain. We don't see this being trapped on a permanent basis, but as I mentioned in the brief, it will be temporarily trapped and the run-off will be slower. That's what will happen with the snow cover. I'm quite sure it won't be a permanent entrapment.

MR. KYLLO:

Would there be any effect on the water quality of the entrapment, say in an old mined-out area and would there be any carry-over of the coal dust or sediment?

MR. LIVINGSTONE:

No, it would be filtered out as far as acidity is concerned. In the brief we mention the sulphur content is low and of the sulphate form. Dr. Berkowitz of the Alberta Research Council has done considerable work on this and I understand a fellow down in Ontario has also done much work. We find there is no detrimental effect and in some cases they are trying to talk about a beneficial effect. We are not going that far, but we know there is no detrimental effect.

Dr. Berkowitz is probably the authority and he has issued a paper on that after intensive study.

MR. KYLLO:

One more question on the practicality of seeding grass. You mentioned that it is the grass which is normally grown on lawns. I understand that it would likely be a Kentucky bluegrass or Marion bluegrass or something of that nature, or in general one of the long grasses.

MR. MARSHALL:

The types of grasses we use do contain the standard seeds used for lawns in the city, but, in addition to this, quite a variety of other seeds as well.

But in determining the types of grasses to be used in the test plots in any given area we consult very closely with the forestry department, specifically the Land Use Branch, and also agronomists through our Cominco organization. We use different types of grasses in different plots and with various types of exposures. A record is kept on this, of course, to establish what type of grass or what variety of grasses do best under certain conditions.

MR. KYLLO:

I wonder, though, about the practicability of introducing exotic species into this type of environment. We have seen what happened with the European dandelion which is all across Canada now. The introduction of exotic species into other environments does in certain cases cause problems. Do you foresee any problems which might arise from this introduction?

MR. MARSHALL:

Not to my knowledge, but I can't really claim to be an authority. I would hate to go on record as saying no. But I don't think this would be likely, because if it were, certainly our own provincial forestry department would never recommend it.

MR. KYLLO:

Another point has come up tonight in that Scurry Rainbow is interested in developing a mine in the general area of Isolation Ridge. A report was given to me this evening that another company, Bralorne-CanFer of Vancouver, have also explored and have proved up a minesite on Isolation Ridge. I was wondering what the possibility was of two or possibly three mines being developed in that area in the next short while?

MR. MARSHALL:

We are aware of the Bralorne property and I think I am quite safe in speaking on their behalf when I say that the reserves they have proven to date are not sufficient to justify a mining operation on their own. If their reserves were to be developed I would think that some equitable arrangement would have to be made, probably with ourselves, inasmuch as their property adjoins ours. They would be worked simultaneously.

If this were the case I would visualize one preparation plant handling the coal from both properties. It would be a unilateral agreement of some sort I would think. But there have been no serious

discussions and no negotiations on this point other than remarking to one another that this could possibly be something to look at in the future.

MR. KYLLO:

Would it involve an increase in the size of your own development, or would your development at the present estimate handle the increased site?

MR. MARSHALL:

Are you referring now, sir, to the area to be mined or the capabilities of the plant itself?

MR. KYLLO:

The capabilities of the plant, the personnel, equipment necessary and such.

MR. MARSHALL:

I think in any installation of this type we would have built in overcapacity in our plant. Certainly, if we were to be able to custom-mill coal from other properties it would be beneficial to other operators in that there are economies of scale in running it through the one operation.

MR. KYLLO:

But is there the possibility in any case of having both the Scurry and the CanPac operations in that area?

MR. MARSHALL:

I suppose so. I can't really speak on behalf of Scurry but I can, of course, on behalf of CanPac. I think at this point we would want to have additional reserves if we were looking at a surface operation before any development would proceed in that area.

I have a feeling that any coal development up in the northwest branch hinges primarily on CanPac proceeding with this development and making equitable arrangements with adjoining properties.

MR. KYLLO:

So perhaps the Scurry operation would come under your concern as well?

MR. MARSHALL:

I can't foretell. I would have to say yes there is a possibility.

MR. KYLLO:

In any event, is a possibility of a much extended operation within the Isolation Ridge area?

MR. MARSHALL:

On what basis do you refer to an "extended operation"?

MR. KYLLO:

Well, either over a period of time or in the immensity of the development itself.

MR. MARSHALL:

I would say there is a possibility over a period of time rather than over the size of total operation.

MR. KYLLO:

Would the two companies possibly be competing for a market for the coal, or would negotiations be carried out so the competition does not drop the price of coal, or other situations erupt?

MR. MARSHALL:

I couldn't tell, and I'm sure the board of directors of Scurry wouldn't want me to answer that question on their behalf.

MR. LIVINGSTONE:

May I answer a little more fully a question that was asked this afternoon regarding whether the information we obtain from our reclamation programs is available to other companies, government, et cetera. This is dealt with quite thoroughly on page 37 in the appendices. Also the report on the reclamation program must be submitted to the government each year presenting the results of all the test work. The information gained by the government from the localities, such as Fording, serves not only to rehabilitate that particular area but is used in other areas of the province for highway situations and other things. So this information is gladly given and is given in a government report.

DR. TROST:

So there is a pooling of information?

MR. LIVINGSTONE:

Yes, there is. What I'm speaking of now is our Fording Coal operation. We cooperate 100 per cent on it.

MR. SADLER:

Barry Sadler, Research Officer to the Environment Conservation Authority.

I would like to ask Mr. Livingstone first, the reasons for comparing the productivity of mining the area with farming it when the area has no agricultural value, with the possible exception of some marginal grazing?

Secondly, does this estimate of land productivity take any account of the costs, or perhaps a better word is 'disbenefits', likely to accrue through pollution, landscape disfigurement, wildlife disruption or conflicts between industrial and tourist traffic?

MR. LIVINGSTONE:

We compared this simply to show that this was a valuable piece of land which would bring great benefit to Albertans through its development. We can get three times as much out of an acre there in a

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year as we could from agriculture. There was no attempt to try to balance one acre against another. We were simply showing the value of the coal in the 16.7 seam.

In reply to your second question, we gave no indication that we were trying to do that. We were simply pointing out the value of the land. Our tourism and grazing were dealt with quite adequately in other sections of the brief.

Mr. Kinisky asked whether we feel we can mine in this area without destroying the trout streams. We are doing so at Fording Coal, impounding the silt, and it's quite successful. I must admit that maybe the miners are getting a little fish for breakfast now and then because they get first chance at the stream now. But other than that, we understand it is being fully protected. We have no reason to believe that it will not be fully protected and we are committed to do so in our policy.

MR. NICHOLSON:

Ted Nicholson, Oldman River Planning Commission.

In the presentation made by CanPac they spoke of a new townsite at their development. If I recollect the figures correctly they mentioned 30-odd years of operation on surface mining and a considerably longer period in underground mining and therefore indicated a permanent townsite would be in order.

In the immediate vicinity we have just heard a representative from another coal company saying that a townsite isn't economically viable or practical and that it would be simpler to commute down to the Crowsnest Pass approximately the same distance. There seems to me to be an inherent contradiction there. Perhaps I could address the question to Mr. Lane of Scurry Rainbow. Assuming that a townsite did go in up in the Isolation Ridge area, would they still commute down to the Crowsnest Pass?

MR. LANE:

David Lane, Scurry Rainbow Oil.

Our property is located south of CanPac's property. I don't know the exact distance but I imagine it's around five or so miles, so that would be another ten miles on the round trip. On our Grassy Mountain operation we are within five miles of the Town of Blairmore so our considerations are slightly different from those of CanPac.

MR. NICHOLSON:

I agree with the Grassy Mountain operation but I'm positive that if a new townsite was placed in the vicinity of CanPac it would place it much closer to your operation than the Crowsnest Pass.

MR. LANE:

Under those circumstances I imagine we would use it.

MR. NICHOLSON:

In the general context you also referred to the miners who now have to commute to their Kaiser operations in B.C. I'm just wondering if you are aware what percentage of the coal miners in the Crowsnest Pass commutes to Kaiser and why they commute, when the present coal mining operation in the Crowsnest Pass has, according to their own

figures, a labour turnover of 80 per cent? In other words, they have an extremely hard time finding miners. There are miners in the Crowsnest Pass who prefer to commute that extra distance to work in B.C.

MR. LANE:

One is surface mining and one is underground.

MR. NICHOLSON:

Yes, although I believe Coleman Collieries was operating a surface mining operation until less than a year ago and I understand the situation still prevailed then. What I'm asking is, are wages higher in B.C. and therefore competitive?

MR. LANE:

Miners in the Blairmore area seem to have an old loyalty to Greenhill, Bellevue and Grassy Mountain mines. We thought that probably some of them might come back to that area.

MR. NICHOLSON:

In your presentation you used the phrase "standard 15 year contract". I believe the present Japanese coal contracts are for 15 years. Can we take this literally that a 15 year contract is the norm in the coal mining field? If it is the case, this doesn't seem to jibe with the prospect of a permanent townsite if a townsite were to be established.

MR. LANE:

McIntyre Porcupine are apparently going on a year-to-year basis with the Japanese now, so it's hard to answer this question. But for financing and so on, generally it's set up on a long-term basis because of the high amount of capital required to put these mines into production which takes a long time.

MR. NICHOLSON:

I can appreciate that just to get off the ground you would want to have a commitment for a number of years. But I'm looking at a period of longer than 15 years, if we talk about first the prospect of a permanent townsite and also the prospect for the local economy. If a 15-year contract is standard this may repeat the cycle, which has been prevalent in the Crowsnest Pass since the turn of the century, of a boom and bust economy. When times are good they correlate very closely with times when coal mining operations are good.

There is also the spectre, if I may use the term, of steel technology improving to the point where they no longer require metallurgical coking coal. And again, thinking in terms of the long-term future of the Crowsnest Pass, in 15 years, even if these mines did come into production and even if there was an economic surge, what is the long-term future going to hold?

MR. LANE:

Once you have mined for 15 years in an area there are other reserves. I think CanPac said there were underground reserves for possibly 30 years and other properties have this ability to carry on much longer than 15 years.

MR. NICHOLSON:

The supply is there but is the demand there if steel technology changes? Both your presentation and Mr. Livingstone's spoke of the risk of this potential resource going to waste if technology changed in the coming years - that it would just lie in the ground and never be used.

MR. LANE:

The possibilities I have presented may or may not occur.

MR. NICHOLSON:

So from the point of view of the citizens of the Crowsnest Pass there is still this sword of Damocles hanging over their heads?

MR. LIVINGSTONE:

No, this is not right when you take the 15 year contract. We speak of that as the minimum contract you need. For instance on Fording Coal they have to put out \$90 million. So you must have some assurance that you have a market for a certain time in order to get financial commitment. This is the first contract of the mine. We have 100 million tons underground. At two million a year that is another 50 years.

Regarding this matter of coking coal going out of style, they have been working very hard on it for years attempting to get this down. They have made progress. I think the Japanese have now cut it down to about 750 kilograms where it used to be about 1,100. But it's been a real effort. They have had oxygen injection and all these things. They are talking about formed coke but there is a long way to go on that. Existing steel mills with their terrific capital expenditures are still going to use coke for some time, so I wouldn't hang anything over the head of the Crowsnest that coal is going out of style. There is every indication that it is going the other way and we should not leave any doubt in that matter.

MR. NICHOLSON:

I want to make one more point about how the coal is hauled out, irrespective of whether it is by the CanPac or the Scurry Rainbow prospective operation. A railroad was mentioned and the pros and cons have already been pointed out. At present Coleman Collieries hauls it 27-odd miles by truck. Someone said that these trucks tend to be few and far between and also that trucks of 100 to 150 ton capacity can't be accommodated on the Kananaskis road.

I believe Coleman Collieries uses somewhat smaller trucks. I think they are in the order of 30 to 50 ton capacity, and I stand to be corrected, but they are not few and far between. I would estimate they move through there every 5 or 6 minutes. If they make a round trip to the mine of 2 hours and 20 minutes with the 28 trucks they have that would work out to 5 minutes each. If it was a 3 hour trip to the mine it would work out to 6 minutes each. If you double these figures, assuming I'm in the wrong ball park, you still have a truck full of coal coming through there every 10 minutes. So the question of transportation ...

MR. KERR:

I'm Jim Kerr from Coleman.

I would like to ask Mr. Nicholson one question, namely, does or does not the planning commission support our proposal for a park in the Crowsnest Pass?

MR. NICHOLSON:

[Inaudible]

MR. SMITH:

Lorne Smith, Oldman River Regional Planning Commission.

Mr. Kerr, I don't think this is the sort of thing to which one can say yes or no unless one considers the effect on the area. I think it does have to be within the context of an overall plan for the area. I don't think you can say this is good without considering everything.

The possibility of broadening the economic base in the Crowsnest Pass area and the question of whether recreation or tourism will do so has been talked about for some time. I think this is probably the type of thing which would help to broaden that base.

MR. KERR:

I brought up a brief in support of a provincial park for the Crowsnest Pass. We are asking for a park within the confines of the Crowsnest Pass but not within the towns. We want it entirely outside of the towns. We are asking that there be no businesses within the park proper. We feel that the present business establishments in the Pass, and probably some future ones, could well take care of the needs of the people who might use the park.

It is my feeling and the feeling of the people I represent that the citizens of Lethbridge would be very interested in a park in that area. A number of you use our area now in different ways. We have the feeling we should share that with you and I think we are prepared to do so. But there are some possessive people who think differently; most of them have been born in the area. They get the notion that this lake, this river and this mountain is theirs. They resent other people coming in, but I think there are enough forward-thinking people who realize that all Alberta is entitled to the use of all of our natural resources and not just a few.

DR. TROST:

If it went to a plebiscite in the Pass what percentage of the vote would you get?

MR. KERR:

If it went to a plebiscite in the Pass we would win easily. I think what you saw when you were there was the bulk of the opposition.

We had several meetings and they were all open to the public. In fact, we had meetings where I would say there were five times as many people as we have here tonight. In one case there was one dissenting voice. There might have been other people who merely observed while I was talking and didn't raise any objection.

DR. TROST:

I notice on the Foothills Resources Allocation Task Force assignment of prime recreational areas they don't rate high in

recreational potential the particular section you are proposing for a park.

MR. KERR:

I think I must get hold of those fellows and take them for a long walk. Probably the further I walk them the more they will agree.



LAND USE  
and  
RESOURCE DEVELOPMENT  
in the  
EASTERN SLOPES

LETHBRIDGE  
JUNE 14

ENVIRONMENT CONSERVATION  
AUTHORITY  
ALBERTA



ENVIRONMENT CONSERVATION AUTHORITY  
ALBERTA

Public Hearing on Land Use and Resource  
Development in the Eastern Slopes

Yates Memorial Theatre  
Lethbridge

June 14, 1973

Brief submitted by: Chester B. Beaty  
1819 - 20th Avenue South  
Lethbridge, Alberta

Mr. Chairman, ladies and gentlemen:

My name is Chester B. Beaty. I am a resident of Lethbridge, and my occupation is Professor of Geography at the University of Lethbridge. I appear at this hearing and submit this brief for your consideration as a private individual, and I am a spokesman only for myself.

My concern over possible courses of action in the eastern slopes of the province centers primarily on one general aspect of potential land use and resource exploitation. I propose briefly to discuss this concern and to offer three concrete suggestions relating to one of the many possible alternative types of land use in the foothills and mountains.

We are all familiar with the term "multiple use," and I am confident it will be uttered many times in the course of these hearings. To put it politely but bluntly, I have become increasingly suspicious of the utility of the so-called multiple-use concept in the real world, and I am here suggesting that rational planning for the eastern slopes in Alberta might very well proceed without invoking the concept. My suspicion is based upon the observation that in many land-use situations in which multiple-use principles are supposedly being applied, what is

really happening is dominant single use. On the face of it, resort to the multiple-use concept in cases of conflicting land use is appealing, but the "all-things-to-all-men" aura of this euphonious term "multiple use" can bemuse and confuse almost anyone, professional or layman. In truth, the fact of the matter is that in many, if not most, cases, conflicting or competing land uses are mutually exclusive.

So, the point I would stress most seriously is that hard choices are undoubtedly going to have to be made when considering possible land-use alternatives for the eastern slopes and that in perhaps a majority of cases application of the multiple-use concept will be of little practical value. It is of paramount importance that Albertans be aware of the possible land use choices and their inevitable consequences. Rather frequently, I suggest, if we opt for one specific kind of land use in a given locale, then more or less automatically we exclude most other possible kinds of use in the same place. I am not arguing that this is necessarily bad, or undesirable, but simply that it is a fact of life and that we will make more reasonable decisions about the future if we openly acknowledge it as such.

In the final analysis, decisions that count will be made by government, hopefully influenced, at least in part, by a citizenry that is not blissfully unaware of the potential dangers of uncritical acceptance of the idea of so-called "multiple use." Obviously, value judgments are going to be made by someone, priorities will be arranged by someone, and ultimate decisions determining specific land uses will be reached by someone. The power to make such decisions is usually governmental power, as noted, and it is incumbent upon interested and concerned individuals to make their interests and concerns known to the appropriate governmental officials and agencies. Certainly we can rest assured that commercial and industrial operators will not be lax in this matter. My plea is that Albertans indicate unequivocally that they will not accept a simplistic and possibly misleading "multiple use" model for future utilization of the eastern slopes.

One possible kind of land use in much of the area designated for these hearings as the "eastern slopes" is strip mining of coking-quality bituminous coal. Indicated and inferred reserves of this particular resource are large. Of all possible land uses in the area under consideration, strip mining, in my judgement, is potentially the most disruptive of the landscape and its stream systems. Yet the coal is there, and there is no reason to believe that more markets for it will not be found in time. However, the value of the coal in the ground is not likely to decline, and I would suggest that in the meantime a long, hard look be taken at coal as a potential exploitable resource vis-a-vis other alternative potential resources. I submit that, insofar as it is legally possible, any significant expansion of coal extraction should be made dependent upon fulfillment of the following stipulations:

1. The provincial royalty on coal should be increased immediately from \$0.10/ton to \$0.50/ton.
2. The mining companies must demonstrate, by means of careful and competent cost-benefit analyses, that extraction of coal over the short-to middle-run (say, 20-40 years) will return to the people of Alberta at least as high a revenue as would be derived from some other possible use or uses.
3. The mining companies must demonstrate, to the complete satisfaction of the Department of the Environment, that mining techniques and reclamation procedures in the affected areas can and will be such that damages to the land surface and interference with the natural stream systems are absolutely minimal for the particular and delicate environmental characteristics of the indicated region. We have two nearby examples to study of attempts at reclamation in the Rocky Mountain environment during and following large-scale surface coal mining, namely, the Kaiser and Fording operations in southeastern British Columbia. The success or failure of these attempts must be factored into any decisions regarding comparable mining in Alberta.

The conditions I specify may seem harsh, but the effects of uncontrolled strip mining in marginal and fragile environments are considerably harsher and essentially unrepairable. Furthermore, it is woefully apparent that Albertans should be receiving a much larger proportion of the financial yield from the coal resources of the province

than has been true in the past. More importantly, over the long pull the primary resource of the eastern slopes has been and will continue to be water, and any potential land use that threatens the integrity of the east-slope stream systems simply must not be tolerated. It cannot be emphasized too strongly that single-use mineral extraction, in the guise of "multiple use," could seriously and perhaps permanently alter fundamental run-off characteristics of headwater areas of the rivers upon which the long-time economic well-being of the province depends. A basic question, to be answered in part by these hearings, is, are Albertans sufficiently aware of and concerned about the consequences of choosing one kind of land use at the expense of alternative land uses? I would hope the Environment Conservation Authority will exercise all of its power and influence to assure that the implications of the question are explored and made clear.

Mr. Chairman, I thank you for the opportunity to make this presentation and to submit a brief at this hearing.

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

You're suggesting that we have a look at the value of the extractive industry resource versus some other use. I presume that in fact we are talking about the aesthetic beauty of a mountain, the recreational prospects for it, the fish in the stream, the wildlife and so on. Do you know if anybody has been able to attach some reasonable value to these things?

MR. BEATY:

Several years ago a fairly intensive study was made of the value of the upper Rio Grande watershed in the state of New Mexico. I think it was published under the title Value of Water and Alternate Uses, edited by an economist named Walman. An attempt was made. We could quibble about how successful that attempt was.

The point I would stress is that so far as I am aware no attempt has even been made to weigh in the balance, over a 20 to 40 or 50-year period, utilization of one resource versus another resource in Alberta. No attempt has been made. I'm simply suggesting that among other things, this is something the province simply has to get on with.

MR. KINISKY:

Mr. Beaty would you be kind enough to identify this article or pamphlet a little more carefully and let us know?

MR. BEATY:

Yes, I'll be glad to do so.

MR. DOWLING:

In the long term which would you value more highly, strip mining in its longest possible term, or the recreational use of the eastern slopes?

MR. BEATY:

The recreational use, because a mining operation is finite. There is, so far as we are capable of determining, no finite life to the so-called recreational potential, provided management is such that there is not a systematic, steady deterioration of what we chose to attach recreational values to. In this case, if you factor it out over a long enough period, it is really no contest in my judgment.

DR. TROST:

It seemed to me your comments on multiple use were quite relevant. Certainly multiple use, if it's applied to a small section of land, is a misleading term, but if it's applied to a very large region of land and you have different uses in different sections of that land, it may not be quite so misleading. What would your comment be on that?

MR. BEATY:

Inevitably we arrive at semantic hassles. Too much of the public views at present, and has in the past, this term "multiple use" in a

misleading way. In time we might agree on an optimal single use for a given piece of land of specified dimensions. I grant that determining what this use might be would be difficult. My main concern about the constant use of this term "multiple use" is simply that in so many cases it's not multiple use.

I'm not very much persuaded by the term "sequential multiple use" because that's one use to the exclusion of other possible uses followed by another kind of use. I guess my main fear is that in the name of so-called multiple use, all kinds of horrendous things are going to happen. I think the public ought to be aware of the implications of an uncritical acceptance of this term. That's my primary point.

DR. TROST:

How do you react to the concept of zoning land?

MR. BEATY:

I accept it, because in effect zoning specifies one use here, another use there. It isn't predicated upon the assumption that we can do five or six or three or seven things simultaneously in the same place. Given the power to enforce zoning, I'm not at all opposed to the procedure.

DR. TROST:

You indicated that government must of necessity have some responsibility in these kinds of decisions. Let's say we're thinking of a zoning decision. To what extent should decision-making in zoning concepts be at the provincial level, the regional level and the municipal level?

MR. BEATY:

I suppose it would depend in the final instance on the size of the geographical area in question. In the case of any land use that is a potential threat to the stream systems of the eastern slopes, in most instances a provincial authority should prevail. In this case we're talking about one of the many resources of the eastern slopes which are not only of regional, local or municipal interest.

It is in the short and the long pull a matter of provincial concern; it certainly should be a matter of provincial concern. At a smaller scale within the planning regions, again dependent upon the legal authority to zone and to make the zoning stick, certainly the planning commissions or their governmental counterparts should have zoning authority.

Municipal zoning is concerned with still smaller scale operations. In terms of water, which I regard as a primary resource of the eastern slopes now and in the foreseeable future, provincial consideration should outweigh regional or local.

DR. TROST:

You indicated that there is also a place for consideration of the public view, for public participation. Would you comment on how that would fit into three-tiered government?

MR. BEATY:

In a most simplistic sense a government responds to pressure. If the public chooses not to lean on the government, then the government will respond to more effective pressures. I know of no way to involve all the public in an effective lobby comparable to a lobby mounted by a particular industrial group.

I think those of us who are concerned can really do no more than urge the public to act individually and, if conscience dictates, to form public interest groups similar to the Kananaskis Action Committee. It seems to me that in a democratic system, the public gets what it deserves from government.

DR. TROST:

You're suggesting that public participation should come voluntarily from the public. It's their responsibility.

MR. BEATY:

That's right. In order for this kind of participation to take place, the public has to be educated. It seems to me that one of the functions of the ECA is public education. Certainly hearings of this sort throughout the province are a vital part of this educational process.

DR. TROST:

I agree with that.



BRIEF TO  
ENVIRONMENT CONSERVATION AUTHORITY  
HEARINGS ON  
LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

Presented by:

Rebecca J. Cousins  
Lethbridge, Alberta  
June 13, 14, 1973

INTRODUCTION

What are we going to bequeath our children? Mountains, denuded of trees and soil, grotesquely disfigured by gaping black scars? Creeks running sickeningly red with pollutants or black with coal dust, where no fish swims? Forests slashed with seismic exploration roads where no bird sings, and no deer rests in the heat of the day? Rivers that waste their precious water in spring floods and dry to a trickle in the heat of the summer? Is this the wilderness retreat that we shall provide for our progeny when they flee the crowded, noisy city in search of the spiritual and physical rest nourished by the quiet forests? Are these ravaged resources, the remnant of a once rich heritage, the bounty which we shall offer our future generations? Shall we leave them an abundant supply of water gathered every winter in the highland basins and released gradually and carefully into our rivers throughout the spring and summer? Or shall we tamper with these crucial watershed areas and instead bestow eroded and barren land; irrigation systems made idle for lack of water; and cities stark with immensities of concrete and devoid of green grass and trees?

How can we have been so long negligent in the conservation of our precious natural resources, believing them to be boundless? With only the barest of restrictions, we have given foreign ownership, as well as indigenous companies, free rein to carry on as they wish with their mines and gas wells and explorations. And they have! To make steel in Japan, to run automobiles and supply factories in the United States, to seek out ever more beds of coal and fields of gas they have scarred, stripped, pillaged and polluted precious areas of the eastern mountain and foothill slopes. This commercial and industrial destruction must be immediately controlled, and in some places curtailed, before the damage to crucial watershed, wildlife and forest resources is irreversible. Soon we will be left with only the memory of a pure mountain stream, a bighorn sheep, an alpine lily, a cutthroat trout, or an unmolested wilderness area.

PRIORITY OF VALUES - WHAT RESOURCE USE DO WE CHOOSE?

It is time for ecological, recreational and aesthetic values to obtain priority over industrial and commercial values. Perhaps it even makes sense economically to put recreation and tourism first, for these activities are a revenue source that is not resource consumptive. On the other hand, a surface mine, gas well, or logging operation consumes itself; and within as little as twenty years is productively, and irreplaceably, dead. Does it make sense to choose the short term, short productivity and destructive resource use over the long term, long productivity and constructive use? Can we any longer afford to be so free with our limited resource assets?

The Report and Recommendations published from the hearing on The Impact on the Environment of Surface Mining in Alberta states that:

"Where conflicts between surface mining and tourism and recreation are irreconcilable, they should be resolved in favour of the larger and longer-lived social and economic benefits, taking into account the measurable social and economic values for each activity in the community" (p. 47).

Perhaps commercial interests will question the measurability of the value of recreation and solitude. However, many well-controlled studies have been carried out to measure the effects of overcrowding and stress on small animals; and the results have shown increased irritability, fighting and viciousness to the extreme point of cannibalism, as well as an increase in blockage of the arteries and heart strain. The crime and violence in our big cities is a gross example of the deterioration of mental and physical well-being that results from overcrowding and lack of privacy.

THE CRUCIAL IMPORTANCE OF THE EASTERN SLOPES AS A WATERSHED

The greatest emphasis on land use and resource development in the eastern slopes must be put on its preservation as a watershed. The report prepared by the Oldman River Regional Planning Commission entitled Land Use and Resource Development in the Eastern Slopes states that:

"Preservation recognizes the intrinsic value to society of a unique resource by protecting it from destruction or irreparable damage" (p. 9).

The report further emphasizes:

"The role of the study area as a watershed is critical and cannot be ignored in any discussion of future development strategies. The mountains and foothills form an immense natural reservoir, not only for the remainder of the Oldman River basin, but for lands throughout the South Saskatchewan River basin (p. 3).

"Without the key natural watershed which conserves moisture in the form of groundwater and slowly melting ice or snow, these fluctuations (reference to water flow chart) would be even greater thus aggravating erosion and siltation during spring run-offs and conceivably leading to critical water shortages at other times." (p. 10).

A measure of our almost complete dependence on this watershed area for our vital water needs can be realized when we learn that ninety-four percent (94%) of the waterflow of the Oldman River at Lethbridge originates there. Furthermore, the Saskatchewan River system, of which the Oldman River is a tributary, supplies water to 85% of the population of Alberta and 42% of the population of Saskatchewan (Environmental Impact of Surface Coal Mining Operations in Alberta, p. 20). Those figures must surely convince anyone of the importance of these watershed areas.

Bulletin #2 - Current Status Report on Alberta's Eastern Slopes  
advises that:

"Water quality should have the highest priority over all the potential resource values."

"Any proposed change in the streamside or watercourse areas to facilitate irrigation, transportation, or recreation constitutes a serious threat to the ecological stability of the total environment."

The ecological stability of the watershed environment is upset, sometimes drastically, by all forms of commercial and industrial use, and by some forms of intensive recreation. Strip mining, road building, tree and vegetation removal, seismic exploration and over-grazing all cause erosion and/or alteration of drainage patterns.

"The alteration of normal and subsurface drainage patterns may have serious consequences. Damage to stream banks, blockage of stream channels and sedimentation cause changes in stream channels, reduce the storm-carrying capacity of water courses, and increase danger from flash floods." (Environmental Impact of Surface Coal Mining Operations in Alberta, E.C.A. 1971, p. 20.)

"There is universal agreement that forests possess remarkable flow regulating and anti-erosion properties . . . deforestation has an important effect upon the magnitude and character of stream flows in any area (with the result that) a flood - drought situation is created." (p. 10. Same reference as quotation below.)

"Such a vegetative cover on top of normal soils will, therefore, drastically reduce the danger of erosion." (p. 13) See The Forest Resource in Alberta, an examination with respect to conservation, recreation, and the forest industry, EPEC Consulting Ltd., 1972.

EFFECTS OF EROSION ON ECOLOGICAL SYSTEMS

1. Removal of the layer of top soil decreases the capability to support vegetation, resulting in further erosion.
2. The watertable is lowered as less water percolates to the deep layers, running off in flash floods instead.
3. Deposition of soil results in the filling in of lakes and/or reservoirs, changes in normal flow paths of streams and rivers.
4. Erosion increases greatly the possibility of slides and slumps which may change or alter a stream course.

II. BIOLOGICAL EFFECTS

1. Destruction of the ecological balance of the area.
2. Destruction of the habitat of a variety of wildlife. Animals may be forced from key grazing and protective cover areas, to conditions which are less able to support them.
3. Significant detrimental effects on the nesting, migratory and feeding habits of some species of birds.
4. Erosion and sedimentation in watercourses, as well as suspended solids in stream flows have a very detrimental effect on fish ecology. Erosion destroys fish eggs by removing them from their place of deposition. Sedimentation results in covering and suffocation of beds of fish eggs and also stream or lake fauna on which fish feed. In addition to the erosion effects upon fish, there is the damage caused by pollutants such as the by-products of gas refineries and pulp mills, and the change in their environment caused by the release of heated water into streams by pulp mills.
5. Destruction of key wintering areas for ungulates that thus threatens the survival of the species.

RECOMMENDATIONSPOLICY OF MANAGEMENT OF AREAS DESIGNATED 'HIGH WATERSHED CONDITION' (See Map 4, THE RESOURCES OF THE FOOTHILLS, E.C.A., 1973.)

These key watershed areas conserve the greater percentage of the water released into the Oldman River system, and include the headwaters of the Castle River and the Livingstone - North Oldman headwaters.

A "fresh water crisis" is every bit as imminent as the "energy crisis" currently being experienced by the United States. Although conservationists had long warned of the impending fuel crisis, their admonitions fell on deaf ears and no steps were taken to cut down on consumption of oil. Suddenly the pumps at the gas station are dry and the car owner has been caught unprepared. It appears that the same situation will soon be at hand with hydro power, and fresh water supplies. While sources of energy other than fossil fuels or hydro-electricity can be developed and harnessed (such as solar energy), we have no conceivable replacement for water in its vital role of sustaining all life. It is imperative that the key watershed areas designated "High Watershed Condition" be brought entirely under public ownership and supervision, and be subject to the following restrictions and policies:

1. The area should be preserved as a wilderness area (i.e. in its natural state).
2. The ecological balance and vegetation of the key watershed areas should be preserved by prohibiting use of all resources, both renewable and non-renewable, with the exception of controlled recreation.
3. Intensive recreational facilities should not be allowed beyond what now exists.
4. Hunting should be prohibited, both to prevent damage by vehicles and to help conserve our dwindling game populations.
5. There should be very limited road access to these areas. Some

existing roads, such as the Grizzly Creek road, should be closed. No vehicles should be allowed except on main access roads. Main access roads, such as the Kananaskis highway, should not be built to accommodate high speed traffic as this necessitates clearing of forest, changing the grade of slopes, destroying natural creek beds etc. Instead these roads should follow the existing topography as much as possible. The Kananaskis highway definitely should not be widened and upgraded to a high speed highway. Paving the existing road would provide adequate transportation facility without further damage to the environment. This is most important as the Kananaskis highway penetrates the key watershed areas of the Livingstone - North Oldman Basin. One or two primitive roads could be allowed for sightseers in this key area, but a network of forestry, exploration, mining and hunting roads must be prohibited. No new access roads should be built.

6. Fishing should be permitted, but access to more remote areas should be by foot only.
7. Programs should be developed to prevent damage to natural resources in the area (plant and animal diseases, protection of predators).
8. Everything possible should be done to maintain and even improve the quality of the water generated in the Oldman basin.
9. Extensive (dispersive) recreation should be allowed (hiking, cross-country skiing, snowshoeing, general enjoyment of the beautiful scenery, animal and plant observation).
10. Primitive public campgrounds could be built on existing access roads at the discretion of the administrative body after a thorough study of the ecological effects of increased people, garbage and vehicular traffic.
11. Snowmobiles or trail bikes should not be allowed.
12. West Castle Ski Resort should not be allowed to expand beyond

its existing concept as a winter ski area. It is located in the key Castle River basin watershed and expansion of its facilities, especially to embrace summer activities, would lead to a heavy traffic in vehicles and people, and vegetation removal.

13. No new commercial enterprises for tourists or recreation should be allowed in key watershed areas..

POLICY OF MANAGEMENT OF AREAS DESIGNATED "MODERATE WATERSHED CONDITION"

(see map 4, THE RESOURCES OF THE FOOTHILLS, E.C.A., 1973)

The areas designated "moderate watershed condition" should also be brought entirely under public control, and should be subject to the following restrictions and policies:

1. A freeze should be put on expansion of present use of both renewable and non-renewable resources.
2. A thorough ecological study should be made of the effects of present industrial and commercial resource use, and the recommendations of the investigating body should be carried out by the government.
3. Use of renewable and non-renewable resources should be carried out under strict management and control to insure environmental conservation. Some particularly damaging industrial resource uses (such as strip mining) should be limited or even curtailed.
4. Where industrial resource use conflicts with recreation use, recreation should be given priority as prime recreation land (i.e. near creeks, rivers or lakes) is limited quite severely.
5. Any application for new commercial resource use (including tourism) should require approval from a public hearing. If approval is granted, then the use of the land should be governed by strict guidelines set up to preserve the environment. Any company violating the guidelines should be forced by law to adhere to them, or their operation should be shut down.

6. Primitive camping facilities, and semi-serviced camping facilities should be allowed. However, they must be constructed and run within controlling guidelines to protect the environment.
7. Controlled hunting should be allowed.
8. Access roads should be limited, and should be moderate to low speed roadways.
9. Snowmobiles, all-terrain vehicles, and trail bikes should be restricted to access roads.
10. Foreign ownership of any lands in this area should be prohibited.

EXPANSION OF RECREATIONAL FACILITIES IN "MODERATE" AND "LOW" WATERSHED AREAS

1. Existing recreational facilities, especially fishing and camping facilities, are currently operating far over capacity on summer weekends. More public recreation areas are needed on the creeks, lakes, and tributaries in the "moderate" and "low" watershed condition" areas. These should be spaced far enough apart to minimize the effects on the ecology of a great influx of people, vehicles and garbage. The banks of the watercourse must not be damaged, and the natural vegetation of the area must be preserved.
2. Substantially more public land areas must be set aside for picnicking, fishing, walking and hiking.
3. Commercial establishments such as motels, stores, dance halls and liquor outlets should be confined to highway #3. Let forest recreation areas be a place to enjoy nature's creations; not a place to be subject to man's commercial creations.

CONSERVATION AND PRESERVATION OF WILDLIFE

1. Commercial land use including tourism should not be allowed in those few areas that are key winter range for ungulates, and therefore are essential to the survival of the species. Conservation practices, generally, must be utilized to ensure adequate range areas for ungulates and habitat for wildlife. Primitive summer campgrounds could be allowed in winter range areas, and the area closed off in the winter.
2. The numbers of grazing cattle must be restricted to that which both the ungulates and the available high quality feed can bear.
3. Hunting pressure on big game now exceeds availability of animals. The number of licenses issued must correspond realistically with the number and sex of the animals which the species can bear to be taken without decreasing the overall population of the species. Hunting should follow fishing practices, with certain areas regularly closed for a year or two to allow populations to build up.

CONCLUSION

I opened this presentation with the question, "What are we going to bequeath our children?" I would like to conclude it with the impassioned plea that we bequeath them a place where they might drink from a pure mountain stream, and splash playfully in its stinging cold water; a place where they might delight in a meadow brilliant with spring flowers; a place where they might thrill to the grandeur of the view from a mountain-top trail; a place where they might creep to watch a beaver building its lodge, or to pounce on a frog leaping into the rushes; a place green with the abundance of water wisely conserved; a place where they might sit, at peace with God, in the still fragrance of an evergreen forest.

Are we truly a democracy? Do we really have a choice of land uses? Will the land be used most wisely to benefit the greatest number of people, or will the land use go to those interests with the most money to hire the loudest and most articulate voices to trumpet their cause?

Let us be moved toward the rational, careful and controlled use and conservation of our resources, and toward the prolonging of their span of usefulness. Let us be moved toward a genuine desire to serve the recreational and commercial needs of the residents of Alberta, and not the residents of foreign countries. Let us be moved to judge the value of a resource not just by the commercial price tag which man attaches to it, but also by its greater, though more elusive, intrinsic value. Finally, let our choice of land use be guided by the heart as well as the dollar, for man's spirit is not nourished by the riches of gold nor silver, but by living in harmony and respect with all creation.

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## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

Do you think our society would forego some of the material things we have strived for all these years, in return for maintenance of the wilderness character you so strongly advocate?

MRS. COUSINS:

I don't think a great number of people are willing to forego any of the material benefits. There have been very few private briefs presented here. Perhaps people don't feel strongly enough; I don't think they will until it's too late.

MR. KINISKY:

What do you think about the fact that the Stanley Cup, which can have no possible effect on the future of Canada, can attract the undivided attention of half the population; while a democratic function such as this, which could have a tremendous impact on the lives of all Albertans, is poorly attended?

MRS. COUSINS:

I feel very sad about it. But I am married to a very ardent hockey fan, so I see both sides of the picture. I really feel badly that so few people are concerned.

Yesterday when I came there was not a parking space for blocks around. I arrived in such great excitement, I thought there was going to be an overflow crowd. Only after I got here did I realize that a convention was being held at the Civic Centre. The cars weren't there because people were at these crucial hearings.

MR. KINISKY:

What do you think we can do, Mrs. Cousins, to change attitudes, to get the mainstream of our population involved in this movement in one direction or another, and to interest them sufficiently so they realize that in fact they are the final custodians of the things that are ours?

MRS. COUSINS:

Well, I wonder if this hearing was advertised to make people aware that land use would affect them. When I first heard of the hearing I thought that it would only involve commercial interests that wanted to build or whatever they're going to do in this area. I didn't realize that it concerned every citizen, that those who cared about conserving this area should come and speak too. It was not until the last minute that I realized this. I thank Helen Schuler for making me aware of this. My brief was prepared in two days because I did not understand the situation until the last minute.

MR. KINISKY:

Do you think that the Authority itself has been in any way deficient in not making the public more aware of these hearings? If so, in future how could we be more effective in letting people know that it is indeed the participation of private individuals we're looking for?

MRS. COUSINS:

I think a full page ad in the paper perhaps would have helped. The private individual is affected. He must come to these hearings even if he only submits a letter saying why he would like this area conserved, that he has always taken his family fishing or picnicking there and they have always enjoyed it and perhaps one day it will not be there.

I had not even heard of the Environment Conservation Authority before I started to research material for this brief. In doing the research, I found the many publications you have been responsible for and for which I am very grateful. Somehow, though I'm very interested in what goes on in the world and daily read the newspaper and a number of other publications, I hadn't heard of the Environment Conservation Authority.

MR. DOWLING:

Your brief states: "It is imperative that the key watershed areas designated 'high watershed condition' be brought entirely under public ownership . . . ." Many of these lands are currently under private ownership. Do you feel that the people of Alberta would be willing to pay the money necessary to bring these private lands back under public ownership?

MRS. COUSINS:

I think the people of Alberta usually sit back and let their government make the decisions and handle the monetary aspects of things. After it's all done they either very angrily say, that was a waste of money or they will applaud. I don't think the people of Alberta, as this hearing would show, are actively involved in their government. It worries me that, living in a democracy, people are not involved.

I truly feel deeply enough about conservation of these key watershed areas that I think expropriation is not a drastic measure.

MR. DOWLING:

I think the preceding speaker made the statement that it's a matter of the public leaning on their government if they want something done. Actually, we have, or it's intended that we have a government of the people, and that governments act on our behalf and execute policy in accordance with our wishes. If we do not have public support, how do you think we are going to get it? What bodies within our society have the capacity to develop interest and rally public support to these matters you have brought to our attention today?

MRS. COUSINS:

Unfortunately Mr. Dowling, I don't know.

MR. DOWLING:

Do you think there's something the Environment Conservation Authority should be doing that it isn't doing?

MRS. COUSINS:

Yes. We have many small groups of ordinary laymen working their hardest. This is difficult for a layman without the time and money

resources. I think the ECA has more of those resources than the average person. We definitely need a strong body to be the spokesman for our environment.

MR. DOWLING:

What are your comments with respect to environmental education in our school system?

MRS. COUSINS:

I am very strongly for it. I hope to be involved in it as a volunteer helper in the Lethbridge school system next fall.

SUBMISSION OF MANALTA COAL LTD.

ON  
COAL LANDS HELD  
IN  
THE OLDMAN RIVER BASIN

PRESENTED BY: E. PANCHYSYN

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NOTE: The submission of the Coal Association of Canada is assumed as a preamble to this brief.

INTRODUCTION

Manalta Coal Ltd. leases coal mining rights from the Province of Alberta on the east side of the Livingstone - Oldman rivers and the Forestry trunk road in Townships 11 and 12, covering an area of 7 square miles. The location of these leases is shown on the attached map. They are 24 miles north and slightly east of Coleman and are surrounded by other lease holders in the area, some of whom are, CanPac Minerals Limited, Scurry-Rainbow Oil Ltd., Coleman Collieries Ltd., and Marshall Sorenson. The Manalta Coal Ltd. Coal Mining Leases are numbered 7037 to 7041 and the leases are referred to as the "Oldman River Property".

GEOLOGY

The coal bearing formation in this area of the province is known as the Kootenay formation; it contains up to three mineable seams. The coal measures on Manalta's property are a northward extension of the same measures that were mined at Blairmore and Bellevue from the early 1900's to 1959 by West Canadian Collieries. There, three seams were mined known as No.'s 1, 2, & 4, numbered from the top of the formation.

On the "Oldman River Property" the beds are steeply dipping varying from 60° to 80° at the outcrop but indications are they flatten out somewhat at depth.

MINING POTENTIAL AND RESERVES

The coals of the Kootenay formation are coking producing coke strengths of varying degrees. Coleman Collieries are now the only producer of coking-coal in the Alberta side of the Crowsnest Pass, selling their coal to Japan.

Although no exploration work has been done on our property, on the basis of general knowledge of the area it is estimated that open pit recoverable reserves are approximately 10 million long tons, and underground recoverable reserves are 16 million long tons above "drainage", i.e., the floor of the main Oldman River - Livingstone River valley. Underground reserves below the "drainage" level are estimated at 22 million recoverable long tons.

The total recoverable reserve is therefore estimated as approximately 50 million long tons.

A cross-section of the coal bearing formation is attached showing its relationship with the topography. The thrust faulting indicated may cause duplication of the coal beds which would increase the reserves; but at the same time could complicate the mining procedures, especially with respect to underground operations.

Coal above "drainage" levels is amenable to "hydraulic" mining, as it is not necessary to pump the coal-water mix, whereas if hydraulic mining is utilized below minimum surface levels a coal-water slurry has to be created so that it can be pumped to surface, or alternately the mined coal would have to be partially de-watered and transported to surface by conventional means, such as conveyor belt, or mine cars.

We wish to point out to the Environment Conservation Authority that recovery of coal by open pit or surface mining method is in the order of 80% to 90% of coal in place as compared to underground mining recoveries of 30% to 60%

Additionally, surface mining can recover seams as thin as 2 feet, which under present technology cannot be done in underground mining.

#### FUTURE PLANNING

Other companies have done extensive exploration in this region and indications are that substantial economical mining reserves exist. However no economical mode of transportation is presently available, and therefore no mining of these coals can take place until one does exist.

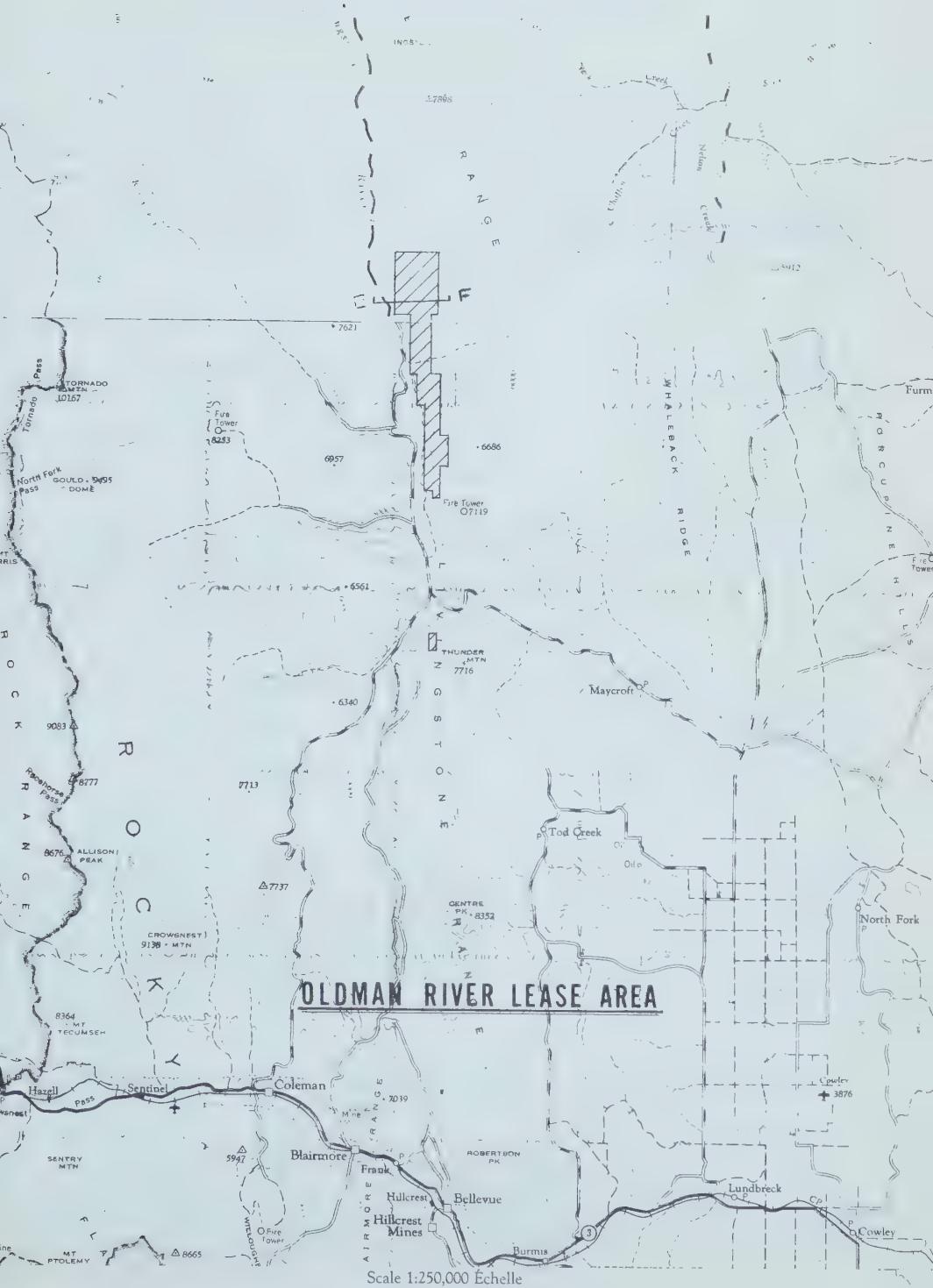
Manalta Coal Ltd. plans to carry out geological reconnaissance during the next two years but has no definitive plans beyond that stage. If as a result of these land use hearings and future government policy permitting mining in the area, this company would carry out large scale exploration with a view to bringing the property into production along with other potential producers.

In order for future production to come about a "common carrier" transportation system would have to be made available along with a market for the coal. Alternately, the coal could be used in the future as an energy source for generating electricity or conversion to pipeline gas.

MANALTA COAL LTD.



E. J. Panchysyn



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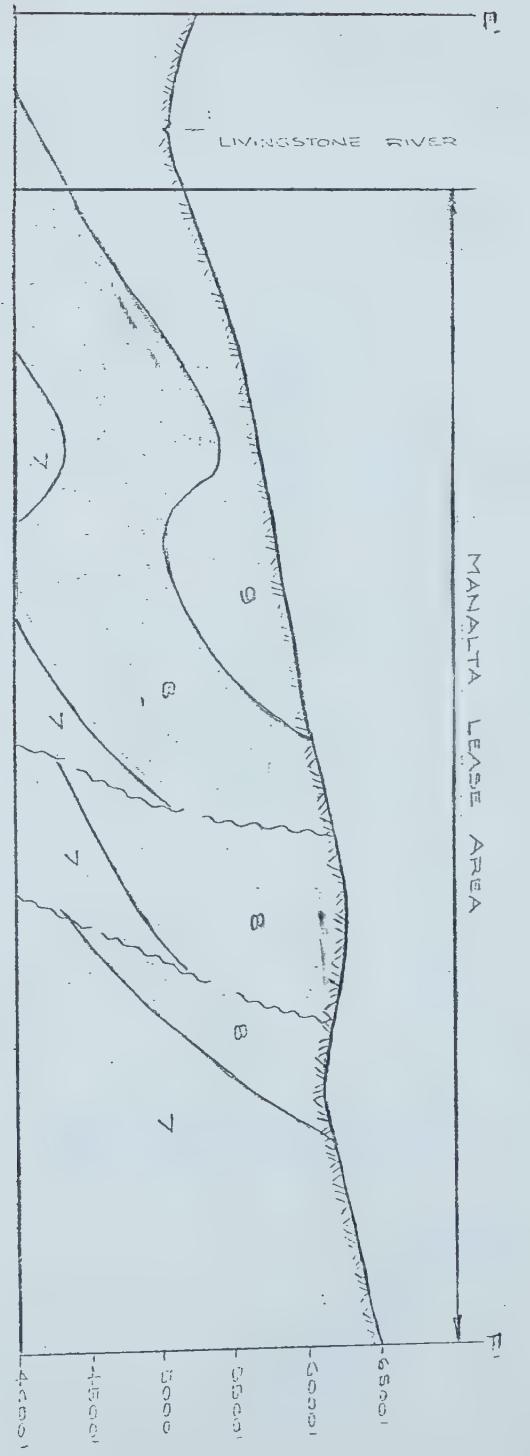


FIGURE 4. STRUCTURAL SECTION ALONG E' - E' AND F' - F'

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

I was wondering, has there been any recent work of any description on your leases in the Grassy Mountain area?

MR. PANCHYSYN:

Well, these leases are not Manalta's, they belong to Scurry Rainbow. Mr. Lane is here. I know they have done some exploration work there in the last two years, but it's only exploration work to determine the extent and quality of the coal. No coal has been removed.

MR. KINISKY:

I recently visited the area and noted that a bulldozer had made a little trip up over the top of the hill. The blade had ripped a beautiful trench up the mountain slope right to the top. There were no trees or anything in the way. I was wondering if this was part of the operations of exploration.

MR. PANCHYSYN:

Well, no. I think I explained in my brief at Red Deer how we carry on. I think we carry on exploration in a responsible manner, but that bulldozer, I don't know. I'm thinking of one we put in when I was there, that was the shortest way to get the cat down from the top of the mountain to the next road.

MR. KINISKY:

One of the things that's pretty vital to any mining operation is the business of using water. In consideration of the fact that in January we only have one thirty-fifth of the flow going through these rivers, a very minimal amount for the sustenance of a reasonable environment for fish life, where are you going to get the water you want?

MR. PANCHYSYN:

We must provide a pond of water, either by a dam or from underground. I don't think the latter is feasible, so it would have to be done by a dam. I know of one mine producing 1 million ton per year; it is getting its water in part from old underground workings and in part from water ponded by a small dam on a tributary of a creek. Their net use is something under 1 cfs or around 300 gallons per minute to produce 1 million ton per year. This could probably be reduced.

MR. KINISKY:

You talked about "our" energy crisis. Do you not mean "their" energy crisis?

MR. PANCHYSYN:

When I speak of "our", I speak of North America because I think we're going to feel the effects of the energy crisis. We may have enough gas for our own needs. I don't want to get into the philosophy of this, but I think it will affect us in the long run. If it affects the United States it will affect us eventually.

MR. KINISKY:

My last question, Mr. Panchysyn, concerns siltation in the rivers, dust and so on. It may be true that you can have some coal dust in the river and you can have fish swimming through it, being caught by fishermen and so on. Are you aware that when this stuff settles into the gravel beds on the bottom of the river, which are the vital breeding grounds of fish, in fact it suffocates them and makes it impossible for them to breed? Knowing this, do you still feel that coal dust in the creeks is all right?

MR. PANCHYSYN:

I was trying to make the point that a minimal amount of coal dust, whatever that quantity is - I don't say and I don't mean to say that you can profusely spread coal dust into the stream, certainly not. I think with all the planning of mines for the future and mines presently in operation, the systems they are attempting to establish will prevent much of this siltation in the streams.

MR. DOWLING:

I think there are about five companies holding coal leases in the Livingstone valley. We have heard from CanPac Minerals and they emphasized that they would be disturbing a very small part of the valley.

However, we now find that many companies are interested in mining coal. Looking at the Foothills Resources Allocation Study, we find that there is a very high coal potential in that valley. Probably geologists in this province, indeed in North America, have known of the existence of that coal for a considerable time. What caused this sudden burst of activity in the Livingstone valley at this time?

MR. PANCHYSYN:

It's not only in the Livingstone valley, Mr. Dowling. I think it became apparent in the middle to late 60's that coke and coal resources in other countries were dwindling and that the opportunities for exporting coking coal, not only to Japan, but to Europe and South America, should be present in the future. Coal companies and other resource industries took out coal leases all through the foothills and the mountains. In effect all the coal-bearing formations are covered by coal mining leases.

MR. DOWLING:

Then really we are mining these resources to support the steel industry, is that correct?

MR. PANCHYSYN:

That's right. Coke in a blast furnace mixed with iron ore is the most efficient way yet devised to reduce iron ore to pig iron. Iron ore is iron oxide. The coke simply removes the oxygen from the iron ore and gives you pig iron. Through electric furnace or open hearth methods it is made into steel. Steel is simply iron with a slight bit of carbon added to it.

MR. DOWLING:

Obviously you have some knowledge of the steel industry and how it works. Do you know of any major technological improvement the

steel industry has made in the last 70 to 100 years? The methods you are describing are methods which were used 100 years ago.

MR. PANCHYSYN:

Exactly. Well, I'm not talking about the refinements of steel making, I'm talking about reducing iron ore to iron. The direct reduction method has been experimented with for many years and put into practice in South Korea and New Zealand and more recently at Falconbridge near Sudbury, Ontario. At Falconbridge the direct reduction method was to be used on nickel-iron pellets. I think the complex to do this cost \$65 million. It was abandoned recently.

The direct reduction method uses a non-coking coal and mixes it with pelletized iron ore in a kiln. The coal provides heat and the carbon for the reducing agent. The pellets come out of the kiln porous, in other words they've lost their oxygen. They can then be fed directly to electric furnaces or oxygen furnaces to be made into steel.

This thing at Falconbridge did not work. I understand it was a matter of economics and difficult quality control. I know Steel Company of Canada is considering this approach again with a new steel complex on the shore of Lake Erie. They hope to use a chare, which is using a sub-bituminous or lower rank coal, driving the volatiles out and leaving the fix carbon and the ash. That is still at the feasibility study stage.

MR. DOWLING:

We know we're talking about non-renewable resources. There is a finite amount of coking coal for the steel industry. What is the steel industry going to do when all the coking coal is gone and they still have to produce steel?

MR. PANCHYSYN:

Mr. Dowling, I don't really know the answer to that question. I don't think they do either. I don't think the reserves of coking coal in the world are that seriously depleted. You are suggesting that the situation is serious. Australia has quite vast reserves of a fairly good coking coal. The coking coals in the United States are dwindling; the weak coking coals in the western United States could still be used. Certainly I think the direct reduction method or some form of reduction method could eventually be used, if in fact there was no coking coal.

MR. DOWLING:

This is an unfair question to ask you because I know that it's not in your specific field of endeavour. Modern civilization has made some significant technological advances since the open hearth method was invented for the production of iron from iron ore. We have invented the motor car, the airplane, the jet airplane, atomic energy and we have put men on the moon. Yet the steel industry hasn't done a great deal or, I would say, anything towards making a major technological advance with regard to producing its particular product without ravaging the earth. The method is unchanged. That is not a question, I regret to say.

DR. TROST:

Would you give us some elaboration of the last paragraph in your brief in which you talk about the possibility of a common carrier, of generating electricity and of pipelining gas?

MR. PANCHYSYN:

For a common carrier somebody would have to put a railway up there. Our property alone does not have enough reserves to warrant any transportation being established. I'm thinking of a possible pipeline in lieu of a railway, but pipeline technology is still having some problems. My feeling is that the easiest thing would be to put a railway up that valley, no matter which way it would go.

The alternate use is that if for some reason the steel industry makes a breakthrough so that the demand for coking coal would decrease in the future, the coal could be used as an energy source for generating power. As I mentioned earlier, around 60 per cent of the power in this province is generated by sub-bituminous coal, which is a lower grade coal. It's cheaper than using gas, even at the old prices of gas. That's why it was used, strictly for economics.

This coal would cost considerably more. Yet as a fuel source for a power plant it still would be much cheaper than some of the fuel sources being used elsewhere in North America and the world. Any coal can be converted to a pipeline gas. This is another problem with our technology in North America because a gasification plant for converting sub-bituminous coal to a pipeline gas is being established by El Paso Gas in New Mexico. They're using a technology developed before the war by the Germans in its elergy process.

The pilot plants haven't really made a breakthrough to convert coal to pipeline gas at a reasonable cost. It can be done, but right now it's costly. There has to be a more efficient way to do it. Natural gas is such a premium fuel, such an easy fuel to use, so convenient that it would be worthwhile to consider our coal reserves even in the foothills and in the mountains for the possibility of conversion to natural gas in the future.

Brief submitted by: Mrs. Elizabeth C. Hall  
Lethbridge, Alberta

MRS. HALL:

I'd like to start by reassuring the commercial developers that I shall take a very short time. I only have a brief letter here, so they needn't worry about being kept waiting too long.

As I am a member of the Lethbridge Naturalists' Society, my formal arguments are included in that society's brief. Incidentally, I'm also a member of the Alberta Wilderness Association. This is a purely personal appeal on behalf of my family. It's also an appeal on behalf of the futures of the girls I work with and whom I represent as Division Commissioner for the Girl Guides of Canada in Lethbridge.

Last spring my husband and I travelled to New Zealand and as part of our holiday we walked over the famous Milford Trail on the South Island. This is a four-day hike through mountain passes and some of the loveliest, wildest and most unspoiled country left in the world. One of our companions was a gentleman from Hollywood, California. He carefully carried a large water bottle which he refilled at the rest huts every night. At the end of the trail he emptied it out with a sigh of relief and said he guessed he wouldn't need it any more. At one point on the hike, he came on my husband and myself drinking from a beautiful crystal-clear stream where large trout were lacing in the eddies. He was truly shocked that we should do anything so foolhardy as to drink untreated water.

At our area Guide camp at Fort Macleod, we have the blessing of a fine well of pure water that needs no treatment at all. It comes bright and sparkling into our buckets. For girls nowadays pumping their own water is a novelty. Drinking and tasting pure, untreated water is an overwhelming experience. I know because I've watched their faces.

Here are two sharply contrasting experiences in our modern world. The man who had never known pure water drinkable straight from the source, who couldn't believe it was safe to drink except from a tap, and the girls who have that satisfying pleasure whenever they go to camp.

Too many of us regard the oceans, the lakes and the rivers as convenient dumping places for garbage, sewage, industrial effluent and all the other detritus and trash of our society. Already we can see the disastrous results of this. We ourselves can see it in the pollution of our local rivers and lakes. It's reported from midocean by people like Thor Heyerdahl and the men who explore the deep sea beds. In fact my daughter tells me about it. She's a scuba diver, and she said the garbage off the coast of Vancouver Island, even at the 90 foot depths, is simply unbelievable.

Here on the eastern slopes of the Rockies we have a chance to reverse this process. We have a chance for a new start. Let us use the time we have to protect this vital watershed from indiscriminate development. For our own sakes, our children's sakes and for their children's sakes let us be careful. Already there have been enough mistakes made in Canada's development without our adding to them. Let us instead follow the carpenter's dictum, measure twice and cut once.



201-1

SUBMISSION TO THE ENVIRONMENT  
CONSERVATION AUTHORITY HEARINGS ON  
LAND USE IN THE EASTERN SLOPES

submitted by: The University of  
Lethbridge Students'  
Society

prepared by: John McInnis  
June 14, 1973

Our major consideration in preparing a brief for these hearings was that time and cost prevent us from submitting a detailed proposal for the disposition of all lands in the study area. We therefore chose, as the main thrust of our brief, to argue in favor of a type of land use which we feel strongly towards and which, by its lack of commercial viability, would be least likely to gain the support of those with the resources for more detailed submissions. We speak of our desire to see land set aside in the Eastern Slopes for wilderness-recreation areas.

By a "wilderness-recreation area" we mean "an area of undeveloped land retaining its primeval nature and influence, without permanent improvements or human habitation (and) which is protected and managed so as to preserve its natural habitat".<sup>1</sup> The implication of such a definition is that such areas must bear the impression of being untouched by human hand and carry ecological systems which balance aside from man's influence. We therefore view such areas as having at least the following restrictions:

- (1) They are without roads (with the possible exception of fire access roads) or other man-made disfiguration.
- (2) They are closed to all forms of motorized transportation.

<sup>1</sup> Alberta Wilderness Association, Elbow-Sheep Wilderness, a wilderness recreation area for Albertans, Calgary, 1972

(3) They are protected by law for all time.

We wish to request that the Environment Conservation Authority consider and recommend a number of such wilderness areas in the East Slopes region. The rationale for this land use is threefold:

(1) We perceive a growing desire for wilderness recreation areas which, in our urban-technological society, is beginning to assume the status of a basic human need to rediscover natural surroundings. It may be noted that virtually every department store in this city as well as numerous speciality shops now carry extensive lines of backpacking equipment, which is a sign that this kind of activity is "catching-on."

We would also note that wilderness-recreation areas are accessible to those at all levels of the income scale, a point which, significantly, does not apply to many other kinds of recreation developments.

(2) Wilderness areas are probably the only means of preserving wildlife in their natural habitat. Since man can, and has for thousands of years, used wilderness areas without unduly altering

them, we view them as lasting grounds for scientific study and lay appreciation of natural wildlife.

(3) Wilderness areas also provide the surest available means of protecting vital watershed areas. Continued supplies of pure water are essential to both the city-dweller and irrigation farmer in Southern and Central Alberta.

We would submit further, that wilderness regions are compatible with a large number of recreational and perhaps semi-commercial activities. Certainly recreational activities such as camping, snowshoeing, cross-country skiing, hiking and mountain-climbing are ideally suited. We also see possibilities for small-scale trapping and livestock grazing, provided both are carefully managed.

The designation "wilderness area", however, does preclude every form of commercial activity which is destructive of the natural habitat. It goes without saying that these would be banned in such areas.

#### Specific Recommendations

(1) At the very least, we recommend that the Government of the Province of Alberta move immediately to pass legislation creating wilderness-recreation areas

covering the headwaters and run-off areas of all of the major river systems in the study area.

Of particular interest to those of us in Lethbridge is that the headwaters of the Oldman River System be so protected.

- (2) We have reviewed the Alberta Wilderness Association proposal for the Elbow-Sheep Wilderness. We are convinced this proposal details that the loss of this 540 square mile region to commercial development is far outweighed by the benefits to recreation activity, watershed management and wildlife conservation. Therefore, we give this proposal our unqualified support.
- (3) Finally, we would caution that the creation of such wilderness areas should not be seen as an invitation to rampant resource development elsewhere. We would urge the Government to assume a stance of cautious indecision on all new resource developments until questions surrounding ecological deterioration and lasting net return to Albertans are satisfactorily answered.

QUESTIONING BY THE AUTHORITY

MR. KINISKY:

It has been suggested that after the hearings concerning the eastern slopes, if a development proposal is forthcoming for which plans have progressed to the point where some action is necessary, a public hearing be held to review all the aspects of that development and its location. What do you think?

MR. MCINNIS:

I think it would be an excellent idea. The general question of development in the foothills doesn't give very much to grasp. If we could see specific proposals which we could comment on, I think it would be a very good idea.

MR. KINISKY:

Do you think there are enough people in Alberta who care enough to attend such a hearing?

MR. MCINNIS:

I think that we would comment again if we saw a specific proposal. You have a number of briefs before you today, that shows that somebody cares. You must remember that private citizens are taking their own time and effort, and in a lot of cases it's pretty hard to bring forward a proposal. Many people would have to take time off work to come to these hearings. I don't think you can blame people for not coming even though they might have an interest.

I can say that I think it would be worthwhile to have hearings again after a specific proposal is made.

MR. DOWLING:

You refer specifically to the Elbow-Sheep Wilderness proposal put forward by the Alberta Wilderness Association. Have you had the opportunity of studying their other proposals?

MR. MCINNIS:

The only one I've seen so far is the Elbow-Sheep Wilderness proposal.

MR. DOWLING:

I gather from your comments that the University of Lethbridge Students' Society supports the Elbow-Sheep proposal?

MR. MCINNIS:

Yes, extensively. I think that's probably one of the few issues on which I can speak for my constituents. That proposal has been reviewed in our newspaper. We have one fairly large outdoor club on campus. I know of a good deal of support among my associates.

MR. DOWLING:

If legislation were passed to set aside these wilderness recreational areas, what body would you envisage within government to control these areas?

MR. MCINNIS:

I see wilderness areas as being pretty much self-managing. I don't see that they need very much servicing or very much control. Perhaps if you had trapping, fishing and whatnot, you would control that. I think there is an organization in government now that handles the provincial parks, isn't there? I think perhaps that group would be sufficient.

MR. DOWLING:

I think my question was a little misleading. Of course we require some element of management in these particular areas. I infer by control that you would have to have some control over the population visiting the area; I'm speaking of control over people.

DR. TROST:

John, are you familiar with the existing Wilderness Areas Act?

MR. MCINNIS:

Not very, no.

DR. TROST:

Are you familiar with the system of Great Divide trails that has been proposed to the hearings?

MR. MCINNIS:

I know some of the trails. I don't know of the master plan.

DR. TROST:

Do you support that kind of use?

MR. MCINNIS:

Yes, very much so.

DR. TROST:

What about youth hostels in the wilderness areas?

MR. MCINNIS:

Well, I see wilderness areas being devoid of buildings and institutional surroundings. I see them as being as unspoiled as possible; the only kind of buildings I can see are perhaps lean-tos, or the odd stove and things of that sort.

DR. TROST:

What about youth hostels in the general foothills and mountain areas, not necessarily in the wilderness?

MR. MCINNIS:

I think those types of developments are ideally suited to national parks. I think they're planning one in Waterton, there are a couple in the Banff-Jasper area.

But areas where you drive in and stay within 100 feet of the road, I don't see as being a type of development for wilderness areas.

DR. TROST:

The proposal before us is that youth hostels be developed within biking distance. Do you think students would make use of that kind of facility, actually using bikes to do it?

MR. MCINNIS:

I think so, yes. There are a number of hiking trails in the mountains now which are being used. I know people who are using bicycles as well for that sort of travel.

Brief submitted by: Mrs. H. Schuler  
Lethbridge, Alberta

MRS. SCHULER:

I would like to comment on something that came up yesterday. One of the speakers quoted a study by Dave Graveland from the Department of the Environment on the water quality here at Lethbridge. I would like to paraphrase another study done by Mr. Graveland in conjunction with the fisheries biologist for the provincial government. This is on the effect of the water quality in the streams going down into the Oldman drainage basin.

Studies have shown that effluence from mines, both active and abandoned, has deteriorated water quality of streams. Slippages have occurred into creeks from overburden. Seepage and leaching occurs from ineffective settling basins erected to contain effluence. Land slides from these can occur as in McGillivray Creek. Siltation of streams from accelerated run-off from disturbed areas seriously threatens eggs and young of fish and fills in creek beds, often making them unsuitable. Chemical pollution also occurs, most notably precipitation of iron compounds increasing iron many times the maximum tolerance level of 0.3 milligrams per litre, and also has deleterious effects on the spawning fish. This is now particularly significant in the Crowsnest River and Vicary Creek. Organic enrichment occurs from accompanying activities, for example, wash house waste waters into Vicary Creek.

Effluence has had a marked reduction on the benthic invertebrates, particularly those associated with clean water and indicative of unpolluted waters, trichoptera, ephemeroptera and plecoptera. The percentage of composition of chironomidae increased from 19 per cent to 92 per cent in samples taken upstream from the Vicary mine effluent and at a point 25 millimetres downstream from the effluent. Virtually no clear water organisms occurred at that point. Since invertebrates are a necessary food for fish, the effluence obviously contravenes The Fisheries Act.

Disturbance of stream banks and beds by traffic causes destruction of spawning beds. Removal of vegetation along streams causes warming of water changing the species in the fish population. Culverts in streams disturb migration of fish to spawning beds.

In addition to this, coal mining trucks carrying uncovered loads of coal will cause coal dust to run into these creeks. This has happened very markedly from the Race Horse Mine traffic and has blown a lot of coal dust into Vicary Creek, thus destroying it. For people who claim that there is no damage to creeks resulting from coal mining activities, I would very much like to take them up to either Vicary Creek or to McGillivray Creek and ask them to have a drink of the fresh water from those streams.

There was also a question from the ECA on what suggested zoning would be. I have here A Choice of Land Use Alternatives, put out jointly by the Department of Lands and Forests and the Department of the Environment. In this book, there is a map listing the key watershed areas and the lesser watershed areas, plus the prime fishing areas. You will note that the prime fishing areas are the northwest branch of the Oldman, the Crowsnest and the Castle rivers. This would be a good basis for zoning of key watershed areas in which there would be no commercial development or intensive development.

Most of my views have already been expressed through the brief from the Lethbridge Naturalists' Society. This is purely a personal presentation. I am making this presentation on behalf of my children, who are too young to speak for themselves, but who will inherit the results of decisions made now regarding the future of the eastern slopes of the Rockies.

We are totally dependent on the primary renewable resource water. We need it for use in our homes, we need it for our livestock, we need it for all forms of food production. Without it we could not survive. It is essential then that the sources of our water be protected for present and future needs. The future planning for these eastern slopes is of vital concern to us, as 94 per cent of our water downstream as far as Lethbridge arises from the eastern slopes.

The Oldman River Regional Planning Commission studies have listed those of man's activities which are considered incompatible with watershed values. Among these are extractive industries of non-renewable resources and the exploratory activities connected with them, as well as timbering, grazing and site-intensive recreational development. These then should not be allowed in key watershed areas, such as the upper reaches of the Castle and Oldman rivers and their mountain tributaries.

The question immediately arises, what happens to the economy of the Crowsnest if the strip mining et cetera is discontinued? Experience in other areas with a coal-based economy has shown that this is indeed a fickle base. The Appalachians, Nova Scotia and closer to home, Grande Cache, all have illustrated the aftermath of boom-and-bust situations resulting from relying on extractive industries. The Crowsnest Pass is a beautiful area on a trans-Canada route. It has immense tourist and recreational potential. With proper management, planning, control and local investment, and I emphasize "local", a stable economic base can be developed. It must be emphasized that financial control must remain local so that maximum benefits will be retained by the people themselves.

I'd like to add here that at present the Department of the Environment is doing some research on growing market vegetables and alfalfa, would you believe on coal slag heaps? Apparently coal slag heaps attract the heat because of their colour. While they haven't finished the research yet, the results are very promising at present.

Roads are a special consideration. Thoreau once said "We destroy that which we love." With increasing demands for recreational land, there will be increasing pressures for access which, if acceded to, will destroy the very values we are seeking. It goes without saying that roads have too much environmental impact to be allowed in key watershed areas. No. 3 Highway should be the only high-speed highway in the area. All secondary roads, such as the Kananaskis trunk road, should be upgraded only to the extent of paving, and be engineered and posted as low-speed recreational roads. High-speed 70 mile per hour highways, such as are now being built at the north end of the Kananaskis valley, have no place in a recreational area. Environmentally they are too destructive and they are in direct opposition to the concept of a relaxing, re-creating experience.

Briefly then, we have a choice. We can claim the short-term wealth of the upper reaches of our mountain valleys and rivers and leave the consequences: devastated mountains, ravaged valleys, decimated wildlife populations, a fouled and silting watershed, plus, after the depletion of the resources in 15 years or so, a depressed and depressing area as a heritage for our children.

Or, by wise and careful planning and by taxpayers' assistance in financing and planning now, we can change the economic base for the people in the Pass. We can leave them a pleasant place to live and a solid base on which to build, and those downstream a clean and constant water supply and an unspoiled recreation area. I hope for the sake of coming generations that we choose wisely.

QUESTIONING BY THE AUTHORITY

DR. TROST:

Mrs. Schuler, do you favour a zoning system?

MRS. SCHULER:

Yes I do. I think in this way we can preserve the values present in each area. I think we'll have to.

DR. TROST:

You emphasized the role of watershed protection, particularly for the water itself, in those zoning decisions. Is that the implication of your remark?

MRS. SCHULER:

Yes. The rest of my feelings are enlarged upon in the Lethbridge Naturalists' Society brief.

Brief submitted by: Ms. J. Hedenstrom  
Pincher Creek, Alberta

MS. HEDENSTROM:

The purpose of these hearings seems to me rather general. I didn't know whether to comment on one's own area, on the Crowsnest Pass, on the Canmore Corridor, on the specific proposals by private companies or the management of forest reserves as a whole. The area is really too extensive for one brief, but since I'm concerned with all these aspects of the reserves, I will comment upon each of them, attempting to be specific rather than general.

I spent the summer of 1970 in a fire tower in the Crowsnest Forest, to be specific at Ironstone Lookout. It is located in the stunningly beautiful valley south of Coleman, west of Turtle Mountain, bounded to the south by Castle Mountain. Looking out from the tower one saw, in the midst of tremendous natural beauty, huge blocks of land cleared of every twig that ever belonged to a tree, and every tree that supported those twigs, not even scrub left. The area is also handsomely scarred with jagged logging roads. Looking with field glasses south to Castle Mountain, one could see an area that looked like the moon, nude and eroded. Ironically, it was after that summer that the provincial government sent the magazine Alberta with pictures of soil erosion in Kentucky and the caption "This is not Alberta."

The area has been seriously overhunted. In four months and much hiking, I saw two deer and one elk, all three scared to death. I was told by a former lookout man how many bears there used to be in this area, and when I saw the number of bearskins and rugs in his home, I knew why there was not one bear, not even one bear print in the whole area any longer. He had shot many of them from the fire tower. In fact, if it hadn't been for ground squirrels, porcupines, mountain rabbits, and little mice with clue eyes and huge pink ears, the area would have been quite barren of wildlife. The porcupines are fascinating. Did you know that porcupines have voices like Elmer Fudd, and can laugh? Yet I was told by forestry officials that the only good porcupine was a dead porcupine. Further, the employees of the forest service used to come to the tower to try to sight game through their binoculars - once they did sight some mountain sheep in a logged clearing.

From the tower I watched while a bulldozer cut, I would rather say dug, a 50-foot swath through the trees of the valley. When I reported this to the Blairmore forestry officials, I was told that the company, Coleman Collieries, owned the mineral rights in that area, and there was nothing they could do. I was further told that this was what mining companies did when they were looking for a new coal seam. When I climbed down to look at the cutting, the dead trees were laced and piled so high on either side of the swath that it was impenetrable by wildlife, or by me. The swath itself was raw, churned soil. The bulldozing went on for a week.

Often over the radio I would hear individual wardens report a problem with an overambitious company - often that logging companies were taking far more than their allotted quotas. Nothing happened.

In the summers, I now live just outside the Crowsnest Forest, south of Pincher Creek. There is an oil refinery in the area that is rather famous for its problematic presence. When I was walking in the area yesterday and watching some ducks on a pond, I suddenly noticed an iridescent oil film on the water. This pond is at least four miles from the plant. Often the air smells of sulphur dioxide, and

the underbrush in the streams below the plant has all died. By the stream that comes out from beneath the plant, all the willows are just bleached, dead branches. In fact, all the bushy trees like willows in the whole valley, and that includes where I live, are showing bleached dead branches to the sky. Every conceivable mountain valley has roads to its very end even when the valley isn't used. In fact, there is one mountain ridge that has vertical caterpillar tracks all the way across it. Why, I can't possibly imagine.

Thus, these are my suggestions for the Crowsnest Pass area:

1. Each forestry official, including lookout personnel, must be instructed in conservation. Conservation knowledge and commitment should be a must for employment, or at least upgrading of this knowledge should be required for continued employment.
2. Forestry officials should be given a course in standing up to private business. So far they have been afraid to offend anyone. Why? Each area should have a superintendent willing to act upon and against violations of forest reserve criteria.
3. Since this valley has been pretty thoroughly worked over, I suggest it be given a rest for a while. Close the roads, at least in some sections, making them hiking trails, bicycling areas, horse riding areas. Make small picnic grounds and camping areas where the roads are open. Mark some of the hunting trails in the area. They are ready-made and excellent hiking trails; further, limit hunting. Cut down the heavy grazing by cattle, and let wildlife have something to eat. This would be particularly fortunate for the elk whose home, Elk Valley, is now being disturbed by Elkford and its related mines.
4. All areas of the reserve anywhere near the national park should be left undisturbed as a buffer zone for the wildlands of the park.
5. Reinstall the wardens in their outlying ranger stations. In 1970, after building in various areas of the forest beautiful homes, and I should say expensive homes, barns and outbuildings for each forestry man in his own area, the service then decided to centralize and relocate them all in Blairmore. Thus their district homes were left empty and unused and each area uninhabited and unpoliced.

As things stand now, in the Crowsnest Forest business is king. Most people of Lethbridge and district don't know that the valley I speak of exists or where the roads begin. The road to Ironstone Lookout is an education in itself. It's a black moonscape, without the slightest attempt at reclamation. Grass does not grow naturally on slag heaps. I would be sorry to now watch business remain king in the Crowsnest Pass in a new way, in the commercial business of resorts.

The plans submitted for the Canmore Corridor are truly alarming. The major proposals are resort proposals costing millions which you, the apparent consumer, or tourists from around the world must repay. Located in the forest reserves, such businesses would benefit from the intense advertising campaign given to the Banff area, paid for by your tax dollar. This reminds me of a Peanuts cartoon that I clipped from the Lethbridge Herald on August 11, 1970. I'd like to read it to you: Linus comes rather dazedly wandering into Charlie Brown's back yard.

He says, "We just got back from a trip." Charlie Brown says, "Did you have a good time? Did you see anything interesting?" Linus says, "All I saw were shopping centres and motels ... every town looks like every other town ..." And he grabs his blanket, sticks his thumb in his mouth, heaves a big sigh and he says, "It doesn't matter where you go ... you've never left."

It looks as though we might turn our forest reserve into just another such experience. But let us think for a minute. We live in a city. Do we want to go to the mountain forest reserves to visit another city and pay for it? If we want a city vacation with recreation there's the whole world to choose from. Surely we go to the mountain forest to be in the forest. Probably we seek to avoid the congestion, pressure, irritation of a city. Perhaps we want to picnic, hike or bicycle, or maybe just sit and love our natural surroundings. But the proposals for the Canmore Corridor suggest an ignorance of these basics. They suggest that you go to the forest to be in a city. Of course, if you go to the forest you'll find cars, motorcycles, motorboats, man-made lagoons, buses, airplanes and clipped lawns.

This leads me to suggest the following points in regard to the proposed development of the Canmore Corridor:

1. The Canmore Corridor is as beautiful as the Banff Park, and just possibly should be considered, for conservation purposes, as part of that park.
2. If any plans are accepted, the government should favour those stressing forest recreation, recreation that will work with the forest and animals and not against them.
3. Why is the government sure that tourist facilities are necessary in the Canmore Corridor? Many of you probably heard Peter Gzowski on This Country in the Morning interview some of the citizens of Prince Albert, near Waskasoo National Park. One of the men said, "Let's keep this a real people's park, not a resort like Banff or Jasper where families can't go because it's just too expensive." It was an offhand remark, but all the more telling for that reason. Banff and Jasper are thought of less and less as a good place for a Canadian family to go. I would like to see surveys done of Canadian users of the park. I seriously doubt that many of them want to stay in Mount Rundle Village.
4. If further tourist facilities are found to be necessary, allow them to be concentrated and tastefully done in the Canmore and Golden sites. Here they should keep as many trees and as much natural vegetation as possible. It's cheaper, more appropriate, hides a great deal and is much easier to keep than clipped lawns.

But further, there must be some end in sight to this development. It just can't continue year after year or our forest reserves will be a sham. We must remember that it is only two months of the year when any overcrowding occurs. For short-term pressure, are we to build year-round solutions? One answer might be to allow, in the months of July and August only, trailers and tents to park on some of the closed-off forestry roads. I once worked in the trailer courts in the Banff National Park. When there was a large overflow, we used to allow people to park on an old piece of highway no longer used. This delighted many trailer owners

who were happy to stay there and not move into the trailer court at all. Certainly some of the valleys west of Pincher Creek, so sorely scarred by ugly bulldozed roads, might be similarly used, if it is decided that vegetation and wildlife can stand people in their valleys for two months.

5. If city-type development is allowed, and I definitely feel it should not be allowed, the government should retain control of the land and allow the use of only small amounts of it. No tree-consuming golf courses, man-made lagoons, or airports. Surely 10 acres is enough for a plush hotel and some recreation. One half an acre is enough in a city, rather than the 7,000 acres requested by Underwood McLellan, or the 4.5 square miles asked by Wexco on the slopes of Mount Rundle.
6. Again, no development such as the proposed Mount Rundle Village should be allowed anywhere near the park boundaries. A resort on the boundary will cause as much disturbance in the park as in the forest reserve, and the company would be unfairly drawing on national parkland as a resource.
7. We should ask our government to please advertise some other park for a while. The Trans-Canada Highway goes through many parks in B.C., yet this commercial pressure is not exerted upon them. People don't seem to object to staying in the nearest town or driving through those areas. If the Banff area was relieved of extreme tourist pressure, pressure would also be taken from the surrounding area.
8. Hopefully, the government will allow only forest-oriented recreation schemes, no clearing, ploughing or building, and in large areas of the reserve, ban motorized vehicles, especially motorboats and skidoos. Winter ski touring rather than downhill ski development should be encouraged.
9. As for cottage and house development in the reserves, it is a peculiar trait of our affluent society that one house is not enough, and that a family is not complete without at least two houses. I don't think our forest reserves should cater to such an urge.

Finally, I have two specific points to make that apply to reserves as a whole. First, I am surprised that the wilderness association supports hunting, especially since you just can't have high recreation and hunters in the same area. I have been shot at twice while on horseback, once near the St. Mary River where a teenager aimlessly fired into the bushes; once along the Oldman River, by someone with a high-powered rifle whom I never did see, since I was busy yelling a few choice words to let him know I was human and clearing out fast. I know there are many responsible hunters, but I don't expect to be lucky the third time. Many hikers and ski tourers will leave an area at the first sign of hunters or at the first crack of a gun. Who can blame them? If hunting is to be allowed, it must be in areas of little recreation.

Second, as for horses in the reserves, I feel if you have huge herds of cattle, you can hardly object to a few horses. As a rule, horses do no damage at all. If I am riding in a muddy area I leave it; it's not pleasant or safe to ride in mud. But if you insist that horses do damage, there is a very simple solution. Don't allow outfitters or horse rental businesses near the area. Private or individual riders never hurt an area, they work well with it. It is

large strings of horses passing frequently from commercial operations that might do damage.

In conclusion, I would ask that our forest reserves be kept as reserves, that these reserves should be buffers for national parks, and that reserve officials must stand up to potential exploiters. The government should definitely maintain control of the land and deny the requested commercial development.

I would suggest that the pioneer ethic of clearing the forest and building cities is fading, and that the actual purpose of forest reserves is shifting to its original purpose - to reserve forests. Surely today's thinking tells us these are not reserves to be exploited, but reserves to be reserves.

QUESTIONING BY THE AUTHORITY

MR. KINISKY:

What do you think of the series of activities carried on by people who are promoters of tourism? Do you think it is as a result of their advertising that we have such tremendous tourist pressures over the relatively short summer period here?

MS. HEDENSTROM:

Do you mean private advertising or government?

MR. KINISKY:

Both.

MS. HEDENSTROM:

Yes, definitely. The more tourist development we allow in the park, the more advertising, the more pressure, the more need for more tourist development. I can't see that it will end.

MR. KINISKY:

The State of Oregon has pretty well told the tourist industry to close shop and has told tourists to come, stay for a short time, and take off and head home. What do you think of that attitude for Alberta?

MS. HEDENSTROM:

I think it's very wise. Having been on the Oregon coast and never having been able to get near the ocean in any kind of privacy, I can understand why they did it.

MR. KINISKY:

How do we as a society justify to the people involved in tourism that we want to shut them down, when in fact they keep telling us about the tremendous value of their industry, financially the second most important in the province?

MS. HEDENSTROM:

There are, of course, alternative values of land, water, fresh air. There are alternative businesses. There are certainly alternatives. Instead of selling our raw resources, do secondary refining of them here and that sort of thing, which means more finances.

But there are also other tourist areas in Alberta, many of them.

MR. KINISKY:

You made mention of some instances in which existing regulations were not being properly enforced relative to the activities of people in our forest reserves. Do you feel that there is an inadequacy in enforcement?

MS. HEDENSTROM:

Yes.

MR. KINISKY:

Do you feel that the present regulations are sufficient or do we require more regulation?

MS. HEDENSTROM:

I'm not familiar enough with the regulations to say. I do think the regulations should probably be beefed up. I also think that the attitude of forestry officials might be a little more emphatic.

MR. KINISKY:

Do you favour the concept of giving a citizen the right to lay a charge against a corporation for the violation of rules established by government?

MS. HEDENSTROM:

Yes.

MR. DOWLING:

A great deal of the advertising of the Rocky Mountains is being done by ourselves. We visit the areas, take colour photographs, regale our friends, and say, boy you gotta visit that place, it's wonderful. I think that we are instrumental in bringing other people to the mountain regions. As far as I can see, this will continue.

What level of tourist facilities do you think we need for these visitors who come to our eastern slopes?

MS. HEDENSTROM:

Well, you've been to the area. You've seen it. You loved it and you told your friends about it. But you talked about the area, probably not about the hotel you stayed in. I think that kind of accommodation, even that kind of experience, isn't really necessary to your love of the area. Perhaps areas might even simply be enjoyed for a day and left.

I would prefer to see, as I said, temporary summer arrangements of trailers through beautiful country and nice roads that aren't used any more, something like an expanded recreational facility, rather than huge resort hotels that draw people to the forest who really don't care about the forest. They come for the night life.

MR. DOWLING:

People who come from afar must have some place to stay. Are you suggesting that there should be some less sophisticated form of accommodation?

MS. HEDENSTROM:

Certainly if advertising doesn't so heavily emphasize Banff, we should. At present I think we could accommodate those visitors.

MR. DOWLING:

Would you be in favour of additional campground facilities, for instance?

MS. HEDENSTROM:

I think so, though not all in one area. I really would like to see them as modest as possible.

MR. DOWLING:

You've also expressed some opposition to the fact that developments right on the park boundary will be drawing benefit from parklands. Have you any idea as to how large a buffer zone you would like to see between the parks and tourist area?

MS. HEDENSTROM:

I could be extreme and say I'd like to see the whole reserve as a buffer zone, but I realize that would probably be unrealistic.

I don't know in a matter of acres. I think it would have more to do with game ranges. There are certain valleys, for instance, in which game dips over from the parks into the reserves and back again. Probably an area like this should be left untouched so the game doesn't come out into the reserve, get bothered by tourists and shot by hunters. It can't even go back into the parks, it's too late.

216-1

# ALBERTA IRRIGATION PROJECTS ASSOCIATION

INCORPORATED

SUBMISSION ON LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

TO BE PRESENTED AT:

THE ENVIRONMENT CONSERVATION AUTHORITY  
OF ALBERTA  
PUBLIC HEARINGS

Lethbridge, Alberta  
June 14, 1973

REPRESENTING ALL IRRIGATION PROJECTS IN ALBERTA

ALBERTA IRRIGATION PROJECTS ASSOCIATION  
SUBMISSION ON LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

TO BE PRESENTED AT:

THE ENVIRONMENT CONSERVATION AUTHORITY  
OF ALBERTA

PUBLIC HEARINGS

The Alberta Irrigation Projects Association is concerned mainly with the Oldman and the Bow River basins since these are the only two areas where major irrigation projects are established in Alberta. The division of the eastern slopes area into river basins has already outlined the importance of water as a major resource of this area.

In view of our concern for proper watershed management, we wish to present the following points for consideration by the Environment Conservation Authority in subsequent formulation of Government Policy:

1. Large scale land clearing, either for forestry or agricultural purposes, should be discouraged. Clearing of the natural vegetation tends to decrease the snow pack over the winter and thus reduces the total flow in streams. The clearing of trees on a large scale also increases the rate of melt in the spring and early summer as there is no shade to protect and prolong the life of the snow cover. The rapidly melting snow increases the rate of runoff in the spring with a subsequent increase in the volume of silt flowing in the river. The silt is then deposited in the reservoirs and is also a burden on water treatment plants.

That the foregoing can be controlled is shown by Watershed Research on the Fraser Experimental Forest. The selective cutting of timber in narrow strips or small plots actually increases the snow pack and lengthens the melt period thus providing a steadier flow in the run off streams.

2. Development of non-renewable resource sites, which are concentrated in relatively small areas, will not have an adverse effect on the watershed if they are properly engineered for restoration after the site has been utilized. The restoration concept should be approved before development and enforced subsequently.

The extraction of energy sources is unlikely to conflict in any way with the long term use of the watersheds as reforestation can take place on a relatively small area before major damage is caused to the overall system.

3. Recreational Development is a prime user of the watershed area, but may be concentrated in particular areas which are suitable for designated functions such as: skiing, boating, camping, fishing, etc. Concentrated areas mean concentrated change, however, it is much easier to control changes when they are in centralized areas rather than being spread throughout the eastern slopes.

Well planned and developed recreational areas, provided with good all weather access roads, can be enjoyed by all without prohibiting conflicting developments and may, with proper planning, contribute materially to the overall development of the road system, which will be required for all development.

4. The eastern slopes require considerable care with regard to agriculture. There is a distinct probability that overgrazing by cattle or wildlife could result in a total loss of surface soil and moisture retention ability. The area is limited in its capacity to maintain life as are all areas of the watersheds.

Government should exercise control over the burden of cattle or wildlife that certain areas are being asked to bear.

5. Dams and other on-stream structures change the existing characteristics of the streams on which they are built but this does not necessarily mean destruction.

The changing of the life style of the fish has not to date caused any major reduction in total numbers of fish and has provided variations in the form of recreational areas and new fish habitat in the reservoirs.

6. The limitations of supply and distribution of water will eventually govern the extent of development of most resources in southern Alberta. To insure that our water supply is well managed for the benefit of the most people, it would be wise to establish River Basin Authorities or Commissions. These Authorities should have strong local representation as opposed to some branch of government which would not be as responsive to the needs of any one river basin.

7. In addition to the points on watershed management and because our organization represents farmers, we also suggest that hunting be controlled, possibly by examination before licensing such as the hunter training program certificate. This would protect both the watershed and the ranches on the Eastern slopes.

216-5

WEST CASTLE

Presented to:

ENVIRONMENT CONSERVATION AUTHORITY  
ALBERTA

By

CASTLE MOUNTAIN RESORT LTD.

May 16, 1973

Presented by:  
D. McKim

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PREFACE

This planning report outlines the continued development of West Castle as a year-round vacation and recreational complex, and gives particular attention to the impact the selection as site for the alpine and nordic ski competitions of the 1975 Canada Winter Games will have on its development.

It is important to note that West Castle is the only major ski development at the present time in the Canadian Rockies that has the geographic potential of being a year-round holiday complex. And further, the only major development, at the present time, in the Canadian Rockies, solely under the jurisdiction of the Government of Alberta.

The preparation of the development plan for West Castle has involved the efforts of many people, from governmental agencies, sport societies, to private consultants, all of whom have been concerned with the inter-relationships of man and nature. The plan provides guidelines which reflect this concern.

"There is much comfort in high hills  
And a great easing of the heart.  
We look upon them, and our nature fills  
With loftier images from their lift apart.  
They set our feet on curves of freedom, bent  
To snap the circles of our discontent."

Geoffrey Winthrop Young

BASIS FOR REPORT

Specific Purposes - The report has been compiled to:

1. State the need for such a facility in Southern Alberta. The residents of Southern Alberta have been traditionally travelers; travelers for their leisure recreation, not from desire but of necessity. And invariably Southern Albertans have ended up in the national parks of Waterton, Glacier, Banff or Jasper. However, these people found they could not be part of the land, but only another visitor, another statistic. The residents of Southern Alberta see West Castle as a year-round recreation area that they can call their own. They feel that it is a necessity, especially if the provincial government is at all concerned with leisure recreation facilities within its jurisdiction, and in light of the heavy visitor load on the national parks.
2. Answer questions that may be posed by the residents of Alberta, and particularly Southern Alberta, and other interested agencies at the Public Hearings on Land Use and Resource Development in the Eastern Slopes.
3. State concessions necessary from the provincial government to assure viability.
4. Outline requirements necessary for successfully staging the ski competitions for the 1975 Canada Winter Games.

BACKGROUND

A. West Castle

The West Castle Recreation Resort is located in the Crowsnest Forest Reserve, southwestern Alberta, at the foot of the Middle Kootenay Pass of the Canadian Rocky Mountains. The magnificent setting of glacial valley, drained by the West Castle River, and Great Divide Rockies offers a superb site for year-round recreation.

Mileages:

28 miles west of Pincher Creek  
90 miles west of Lethbridge  
160 miles south of Calgary  
194 miles southwest of Medicine Hat  
332 miles west of Swift Current, Sask.  
486 miles west of Regina, Sask.

## B. History of Developments

The company is young compared to most ski areas, being incorporated in 1966, and consequently is experiencing the economic pressures of most young ski areas without unlimited funds. Initially the prime responsibility and philosophy of the company was to develop a modern ski resort, and encourage skiing in Southern Alberta.

However, since 74.5 per cent of the 150,000 people living south of Calgary do some type of outdoor recreation, but not necessarily skiing, at the present time, and economically a ski area can not be idle eight months of the year, year-round recreational use of the facility was started in 1969 and has grown steadily. It is evident that this growth will continue, providing the Government of Alberta recognizes the desires of Southern Albertans.

## C. Existing Development

The present West Castle facilities are as follows:

- West Castle Lodge
- Ski Shop
- Duplexes (2)
- Maintenance-Generator Building
- Trailer & Campground (24 sites)
- Chalet Sites (11)
- Ski Lifts (3)
- Ski Runs
- Parking Area
- Corral
- Water Systems (2)

Notes on sewage disposal, run-off and slope erosion control:

The sewage disposal system consists of a 10,000 gallon two-section tank with 3000' of field in excellent drainage ground. This system was upgraded during the summer of 1972 according to the latest government standards.

There is very little problem with run-off water from around base facilities, including the parking lot, as the ground is loose shale, and gravel.

The ski runs have been cross-trenched and seeded to grass to curtail slope erosion. The grass has taken well and many wild animals, deer and elk as well as cattle, graze on it throughout the summer.

#### D. Environmental Characteristics

1. Geographic
2. Geological
3. Ecological
4. Climatological

Refer to the Appendix for information on the environmental characteristics of the area.\*

There are two points that should be brought out here with respect to climatological conditions. One, the Department of Lands and Forests are situating a weather station at West Castle. This will provide a source of weather data not available at the present time. Also, it is suggested that this data be made available to the meteorological branch, Department of Transport, for daily public use.

Second, it is evident, from daily records kept by West Castle, that more snow falls sooner and remains a longer period of time on the Haig Ridge to the immediate south from the prevailing southwest winds. With the weather factors being so favourable and the excellence of terrain, the area lends itself to fulfilling the intermediate skiing requirements desperately needed by West Castle.

#### E. Recreational Potential

Many outdoor recreational possibilities exist by the natural features of the West Castle valley.

Natural Feature	Proposed Use
Slopes of West Castle	Sightseeing, hiking and trail riding (summer); alpine (downhill) skiing serviced by lifts of up to 900 skiers/day capacity (winter)
Valley floor and West Castle River with exposed mountain structure, plant and animal communities of area	Sightseeing, hiking and trail riding, fishing, camping, picnicking, nature study and interpretation; cross-country ski touring and snowshoeing

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\*Information Bulletin No. 2, "Current Status Report on Alberta's Eastern Slopes".

Natural Feature	Proposed Use
East ridge of Mt. Haig and alpine lakes and meadows below Mt. Haig	Alpine hiking and camping; alpine (downhill) intermediate skiing
Barnaby and Rainy Ridges, and Middle Kootenay Pass, with alpine lakes and meadows	Alpine hiking and camping; fishing; trail riding; cross-country skiing and snowshoeing

Although West Castle as a recreational site is described as an intensive use area, and consequently a high probability of conflict exists between non-renewable and preservation-conservation, a moderate conflict with renewable resources, and a low conflict with recreational use, the following must be kept in mind in this specific case:\*

1. Since West Castle does not exist over known deposits of natural gas, oil, coal or valuable mineral non-renewable resources, it is evident that it has a low resource probability conflict.
2. Of course, with increased use of West Castle, the preservation and conservation will remain a moderate to high conflict in resource use. However, by taking care in planning and development many conflicts can be alleviated. For example, by using the proper methods of erosion control and seeding on the ski slopes, the problem most readily visible to the layman will be eased. A further example is choosing slopes that are naturally open whenever possible, i.e. slopes on the Mt. Haig Ridge.
3. As pointed out in the section on Environmental Characteristics (Appendix), the conflict with the renewable resource, timber, should be rated a low conflict rather than moderate conflict because the timber around West Castle is non-merchantable as a result of climatic and geological conditions.
4. The low rating of probable conflict for recreational resource use is at the present time true at West Castle and the valley floor. However, with the intense growth of cross-country skiing and snowmobiling, there will be a moderate to high conflict resulting as each attempt to use the valley floor and side valleys. It is suggested, because of the narrowness of the valley and this probable future conflict, that all off-highway over-terrain vehicles be banned from the West Castle valley.

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\*Page 15, Information Bulletin No. 5, "Land Use and Resource Development in the Eastern Slopes", Report of the Oldman Regional Planning Commission.

In summary, the probability of conflict between major types of resource use at West Castle is on the average low to moderate and can remain at this agreeable level with careful, considerate planning and enforced governmental policy.

#### F. Development Program

##### 1. Introduction

The Department of Lands and Forests is prepared to favourably consider the following developments:

- a. There is no objection to repair and renovation of present facilities or expansion of skiing facilities.
- b. There is no objection in principle to the Company developing chalet-type accommodation for the rental purposes and if necessary, adding additional lands to the present lease for this purpose.
- c. There is no objection to the development by the Company of a trailer park, providing facilities for holiday-type trailers.
- d. There is no objection to approval of a site for the manager's house trailer, either on the present lease or on other nearby lands.
- e. The Department is not opposed in principle to year-round recreational activities, provided the activities are consistent with Eastern Rockies Forest Conservation Board Policy on Land Use.

It appears evident that with the continued support of Southern Albertans, the Department of Lands and Forests are willing to allow development. However, concessions made by the Department of Lands and Forests must consider the Company's viability.

##### 2. Concessions Necessary for Viability

- a. The privilege of subleasing land for chalet and condominium construction. This request is made because there is a growing demand by Southern Albertans, and to finance uphill transportation (ski lifts) the Company requires the capital derived from subleasing land for chalets, condominiums and other base facilities.
- b. The privilege to hold additional land under miscellaneous and license of occupation leases. At the present time, this request and one of continued development is before the public of Alberta.

- c. The Government of Alberta assumes a year-round road maintenance program from the East Gate of the Crowsnest Forest Reserve boundary to West Castle, a distance of 11 miles. The company built the last six miles of road at a cost of \$60,000, and has had to assume a snow removal maintenance program, not for six miles but for the entire 11 miles at an average cost of \$10,000 per year for the past seven years.
- d. The Government of Alberta provides the commercial utilities and in the following priority:
  - electrical power
  - telephone, buried cable
  - natural gas

Considering, one, operating costs of the company with its present systems and two, proposed and existing development along the utility route, the company's supplying the services would more than break even in the near future.

### 3. Proposed Development Schedule

Summer 1974 - Listed as to priority:

- a. Ski lift on Mt. Haig Ridge
- b. Lodge renovation-conversion
- c. Day lodge
- d. Chalet development
- e. Cross-country skiing trails
- f. Ski jumps
- g. Enlargement of parking area
- h. Slope grooming
- i. Details for operation and administration of the 1975 Canada Winter Games.

Summer 1975

- a. Condominium development
- b. Ski lifts on West Castle Mt.
- c. Heated swimming pool and asphalt playing courts

Summer 1976

- a. Ski lift on Mt. Haig Ridge
- b. Pitch and putt, and driving range
- c. Equestrian centre
- d. Formation of lake on West Castle River.

#### 4. Requirements for the 1975 Canada Winter Games

Skiing for the Games is planned to take place at West Castle. Since skiing is a major feature of the Games, it is essential that the facility to be used offer the proper standards for competition in all the skiing events. Further, part of the Games' philosophy is to foster development of much needed facilities that will remain after the Games for use by the local residents. The facilities are to be ready by February 1975 - work should begin as early as this summer. Therefore, the immediate cooperation and support of the Government of Alberta must be received.

The following are improvements and developments necessary to ensure adequate facilities for the Games:

1. All developments and improvements for the Games events should, wherever possible, be in harmony with a master development plan for the total resort development.
2. Road access should be upgraded to paved secondary highway standards from Pincher Creek to the westerly boundary of the resort area.
3. Priority snow removal and sanding procedures should be established to ensure safe and easy access to the West Castle area as soon as possible to create a known pattern of travel that will attract spectators to the Games events.
4. Permanent commercial service of essential basic utilities is required. Both the telephone and electricity source is required. Land lines are advisable so that after the completion of the Games these essential services will remain to play a major role in improving standards of living of the local residents and industries.
5. The present hybrid base lodge is inadequate to shelter, feed and service the needs of the public and the personnel directly involved with the Games. An examination of the direct and indirect needs of the Games should be co-ordinated with the development of a true Day Lodge which would be capable of providing the basic service needs of the Games while at the same time have a future resort area use. Additional support facilities such as Games office space, ski storage, waxing rooms, meetings areas, press centres, etc. could be provided in temporary trailer units which could be located in the presently developed and serviced trailer campgrounds.
6. For the Alpine events a downhill trail must be developed. The suggested standard should be that for Ladies events Internationally with a vertical drop of between 1,312 and 2,300 feet. This would provide an adequate facility for national standards for both boys and girls and provide an internationally rated course for ladies. Ideally, depending on the number of participants, separate courses should be prepared for boys and girls.

7. The downhill trail(s) must be served by a high speed lift system, preferably a chairlift.
8. The terrain that should be examined in detail for the establishment of a downhill is not in the presently developed area. The mountain immediately adjacent to the present facility on the western side presents some distinct possibilities for development. This area can provide the competition trail(s) and as a residual open up some badly needed gentle terrain for the lower ability skier who at this time cannot readily develop on the presently available slopes and trails of the existing area due to their overall steepness.
9. As Items 5, 6 and 7 are larger capital expense items and the Games are of such short duration, it is conceivable that the proper approach for the development of these facilities would be on an acceptable cost sharing basis with the resort company.
10. The Giant Slalom and Slalom Slopes are presently approved by the FIS but recent competition experience with these courses suggests that further grooming and widening is desirable.
11. A water source with reservoir and a cold temperature sprinkling system is recommended for the entire slalom slope.
12. Temporary shelters (polyethylene and 2x4 construction) should be provided at all start gates.
13. Basic warming hut facilities should be developed at the top terminus of the present T-Bar lift and the suggested downhill access chairlift.
14. Each discipline of the Alpine events requires an electric timing hut with the necessary six pair of conductors between start and finish. Several intermediate control points are required for downhill. In addition it is essential that there be available to the organizers two sets of eight radios for the Race Committee and the Race Jury. Obviously the communication needs of Cross-Country and Jumping will be similar with Jumping requiring the least of all the sports.
15. The technical control and support facilities such as waxing, ski storage, Jury Rooms, Calculation Room, Result Production and Administrative offices should be located as near as possible to the focal centre of the Games. Ideally such services will be located in the suggested temporary trailer units. The requirements of Cross-Country and Jumping may indicate a sharing of common facilities as a desired efficiency.
16. On-site accommodation, if economically justifiable, should be expanded so as to accommodate on site the key personnel for both on-slope and in-service areas. A condominium development plan with preferred use of units during the period of the Games being a condition of sale could provide a substantial amount of accommodation that would be attractive and highly desirable during and after the Games period.

17. The Jumping facility, including a 30 m and 50 m jump with Judges' Stand, should be located as close as conveniently possible to the focal centre of the area, which should be the suggested new base lodge. The location of the jumping hill and its design should be developed in cooperation with the Jumping Hills Committee of the CSA. The regional chairman of this committee for Western Canada is Mr. Burney Cjervan, Professional Engineer, of Vancouver. Mr. Cjervan can be located at 3321 West 38th Avenue, Resident Telephone 266-9698, Business 684-8594.
18. Situating the Cross-Country Start and Finish Stadium should not prove to be a difficult task but it would be desirable if these facilities could also be located near the focal centre of the area thus reducing costs of road access, services and duplication of support facilities. The terrain on the valley floor and the gradually sloping lower slopes of the mountainsides, particularly those on the opposite side of the valley to the developed alpine area, offer a wide choice of terrain for the layout of courses. The layout of courses is principally dictated by the location of the stadium. Mr. Rolf Kjernsli, CSA Technical Director, Cross-Country, is the proper person to coordinate the planning and development of the needed trails and the support facilities required for this sport. Mr. Kjernsli can be located through the CSA National Office in Ottawa. A communications network and service facilities for various points along the courses will be required.
19. Medical needs to service athletic injuries should be coordinated with the services provided in the area by the Canadian Ski Patrol System.
20. Press Room facilities should provide detailed result and T.V. coverage in a central media centre which would be a satellite to any main press centre established in Lethbridge for the total Games programme.
21. A transportation system will be required for athletes and officials between the mountain, their accommodation and Lethbridge. If a skier is to see any other events than those connected with skiing, it will require a major transport system geared to the distances involved.\*

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\*Appendix - "An Evaluation of the West Castle Site for the 1975 Canada Winter Games".

#### IMPLEMENTATION

This planning report for West Castle has set forth the need for the facility, answered questions of probable concern, stated concessions required, and outlined a development in conjunction with the 1975 Canada Winter Games.

On approval by the public of Alberta, the Government of Alberta and the Lethbridge/Southern Alberta 1975 Canada Winter Games Society, West Castle will immediately commence preparation for a detailed design for its future.

APPENDIX

560 Colbeck Place  
Richmond, B.C.

May 2nd, 1973

Mr. Ian Howard  
Regional Representative  
Sport Canada-Recreation Canada  
#402 - 1177 West Broadway  
Vancouver 9, B.C.

Dear Ian:

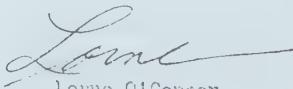
Pursuant to your letter of March 20th last and our several conversations regarding the skiing events at Westcastle for the 1975 Canada Winter Games, I am pleased to submit my evaluation report on the site with suggestions and recommendations for improvement and development of the required facilities to proper standards for the Games.

This report was compiled as a result of my recent visit to the area on the occasion of the Westcastle National Ski Competition, March 29th to April 1st, 1973. The occasion of this visit permitted me to experience the organization of a major ski race in the area as well as observe the potential facility sites required for the Games.

General Manager, Dan McKim, discussed the matter at length with me as well as showing me the full potential of the area. I am pleased to report to you that I found the site selected to be fully capable of providing excellent terrain for all sports and a very capable nucleus of personnel to build upon for the staging of the Alpine events. My suggestions and recommendations are such that I believe necessary to successfully stage the full format of skiing for the Games.

This evaluation and report has been conducted without direct expense. The Canadian Ski Association is pleased to be able to provide this co-operative effort.

Sincerely



Lorne O'Connor  
Technical Director - Alpine

LO:h

c.c. K. Nesbit  
D. McKim ✓  
R. Kjernsli  
B. Gjervan

I N D E X

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March 20, 1973.

Mr. Lorne O'Connell,  
Technical Director,  
Canadian Amateur Ski Association,  
c/o B.C. Sports Federation,  
1606 West Broadway,  
Vancouver 9, B.C.

Dear Lorne:

As you know, the 1975 Canada Winter Games are to be held in Lethbridge, Alberta, and we are intending to hold the Skiing events at Westcastle. I believe you know Dan McKim who is the Manager of the Westcastle Complex.

In preparation for the Games there are a number of improvements that will be required at Westcastle, and prior to starting any of these or hiring any outside consultants to advise on such changes, it would be appreciated if you could, at our expense if necessary, go to Westcastle and evaluate the site and make suggestions for improvement and development for proper standards for the Games in conjunction with Dan McKim. As you know, Jumping, Nordic and Alpine events are on the Games calendar.

It would be appreciated if you could get back in touch with me and let me know when you might be able to go to Lethbridge. Hopefully, it can be sometime before the Ski season ends this year.

Cordially,

*Ian Howard*

Ian Howard,  
Regional Representative,  
Sport Canada/Recreation Canada.

402-1177 West Broadway      402-1177 ouest, Broadway  
Vancouver, B.C.      Vancouver, C.-B.  
604-732-4107      604-732-4107

Introduction

Skiing comprises three separate sports under one name. The sports of Jumping, Cross Country and Alpine skiing are individual activities with only two common denominators, snow and skis. Each sport is practiced in separate locales and has widely varying basic requirements for participation. As a result, each sport has from basic necessity developed its own discipline, its own competitors and its own organizers. Because of this requirement, the needs of each of these sports must be evaluated by a technically qualified person from within the ranks of the sport. The Canadian Ski Association as the common sports governing body employs two staff members who are qualified to examine the Cross Country and Alpine events requirements. However, Jumping, the smallest of three in numbers of participation can provide equally as competent advice from within their volunteer structure.

Site Inspection

In the Alpine events, I as Technical Director of the CSA, have carried out the evaluation as requested while in the Cross Country area, Mr. Rolf Kjernsli, my own counterpart for the Association, should report on his discipline. For Jumping, it is my recommendation that the Chairman for the Sub-Committee for Jumping Hills, Mr. Burney Gjervan, Professional Engineer, be asked to similarly report on the jumping facility required. To give a full range scope of the skiing events, I shall report fully on the Alpine events and generally include my own feelings for the other events for which only the aforementioned should be considered as an official opinion regarding Jumping and Cross Country.

The Skiing Format for the Games

To determine the needs for the 1975 Winter Games for Westcastle, it was essential for this report to adopt a format for the Games that fully reflects the scope of skiing. In the Alpine events competition should be held in all three disciplines. Downhill, Giant Slalom and Slalom with the evolving event of Dual Slalom perhaps reflecting provincial team performance. It is my belief and that of my alpine colleagues that downhill is the most important event. For Cross Country, the stadium and trail system, once established, should permit the selection of events desired for the programme. The Jumping hill, when located and designed, will dictate the programme of events that can be staged for that sport.

A desireable skiing format for Westcastle would include:

A. Alpine	B. Cross Country	A. Jumping
Downhill	5 Kilometer	30 Meter
Giant Slalom	10 Kilometer	50 Meter
Slalom	15 Kilometer	
Dual Slalom	30 Kilometer	

Naturally by eliminating some of the events in the programme, their associated requirements could be reduced. With the exception of

Jumping, the above events are always included in the major tournaments held throughout the world. The Jumping facility is scaled down from 90 meters to a more useable national facility for this sport. Dual Slalom is also an optional.

#### Existing Facilities at Westcastle

Westcastle Ski Area, as it exists today, is in its infancy. The area has been operating since the late 1960's with two T-Bars, the larger with 1,800 ft. vertical rise and the smaller with approximately 400 ft. vertical, serving a somewhat more beginner slope to the Northeast of the main T-Bar. The base lodge is a hybrid facility combining accommodation for approximately 60 persons maximum in dormitory and motel style rooms. Within the building there is a cafeteria style food operation and a lower floor general purpose area which also houses the administrative setup of the operating company.

The trails serviced by the major T-Bar are generally of the steeper expert variety which become heavily moguled if not consistently groomed with a mogul cutter and a packer. There are open slopes above the top station of the main T-Bar which are exhilarating to look at but potentially dangerous under avalanche conditions. Such conditions are of concern in this area in several off-the-trail areas because of the steepness of the slope, the sparse forest cover and the light powder snow in early and mid-season for this area. A third T-Bar has been removed from a location above the main T-Bar and sold. The bowl area which it serviced is above timberline and obviously had a limited use because of avalanche hazard, flat light and a wind problem creating snow coverage problems on the lift line. In this upper area there is no warming hut facility although the former base station buildings of the third T-Bar are still in evidence. These buildings are located in the opposite access direction to the South run and the competition courses, although with effort these buildings could be adapted.

At present the homologated competition trails are free from avalanche hazard but under extreme conditions the steepness of the upper sections of the course could require constant attention. The competition trail (the South Run) is presently homologated (FIS Approved) for Slalom and Giant Slalom. There has been a permanent wiring installation made for both events from start to finish with adequate lines for electric timing and start-finish communication.

The upper section of the Giant Slalom is rough groomed while the lower 900 vertical feet of which the last 600 vertical feet is used for the slalom is well groomed and can readily be packed by machine. On the lower section there is a steeper pitch which is a rock face on the surface that causes packing, grooming and course preparation difficulties because of the tendency of the loose dry powder snow to be either skied, blown or dragged off the slope rather than compacting to form a hard-packed base.

The topography of the slope is excellent for Giant Slalom and Slalom although it is restricting in width on the upper section and on the section just immediately above the finish area. The vertical rise of the Giant Slalom is in excess of 1,300 ft. with the Slalom using the

last 600 vertical of the trail. The upper section being 33° is difficult to pack with a snow packer although not impossible, with the proper equipment and better summer grooming including some proper access "cat trails". This slope then could be entirely prepared by machine. The problem of creating a depth of snow pack on the steeper lower section could well be tied in with a watering system which would be very beneficial for course preparation on the slalom slope. The width of the lower section of the Slalom and Giant Slalom is restricting for both events when two courses are set at the same time. Because the setting of both courses is highly desirable, the widening of this section is advisable. Dual Slalom can be readily set on the lower section of the South Run.

Both the Slalom and Giant Slalom course permit excellent spectator viewing from the base area and along the edges of the trail, however, spectator access in any numbers will be a factor to contend with during the competition days. The topography of the hill and its exposure provide excellent T.V. coverage potential.

Because of the steep topography of Westcastle Mt., a downhill trail has not been developed. The 2,625 ft. (800 m) vertical rise requirements of a regulation (FIS) Mens Downhill are prohibitive although not impossible. The topography and the practical problems of course preparation and the interruptive effect of such competition upon the customer of the ski area with its limited number of available ski trails has excluded this event from developing in this area. Again, because of the above, even a shortened version of a downhill trail has not been practical nor seriously considered in view of the limitations.

The lodge facility in a valiant attempt to provide all the basic needs of a ski area under one roof. As a result, each facet contained therein reflects the sever limitations placed upon it by a lack of space, proper equipment, decor and limited capital fund inputs to provide the standard of services normally provided in major areas or where the traffic load demands a highly specialized and efficient operation.

The electric power source for the area is generated nearby and would be a potential hazard of disastrous proportion to the entire facility if it were to suffer a major breakdown. Because of the limits of the generating plant, the obvious electrical needs of a Canada Games would require a major upgrade of this utility to commercial supply. In the limited available time the water supply system was not considered. however, it too must be evaluated in anticipation of an upgrading of this basic facility that may be necessary.

The accommodation facilities both in Westcastle and Pincher Creek do not appear to be adequate to meet the needs of the competitors, officials and Games personnel, however, a more critical examination may suggest a development programme which will be beneficial to the town and the resort. My recent experience with the organization of a FIS Calendar Giant Slalom and Slalom at Westcastle brought to light the distinct accommodation limitations in Pincher Creek and the feeding difficulties which will have to be overcome.

From the same recent experience and that of two other visits to

the area, the travel distance of 26 miles over gravel roads to the ski area from Pincher Creek proved to be an arduous one under winter conditions. It is my opinion that 52 miles a day of such travel on such a road creates a hazard which could be substantially reduced if the road were paved, ploughed and sanded on a priority basis.

Communication to the area is presently by radio telephone and this will not be adequate for the needs of the Games. While the days of the Games will produce an artificial demand for communication lines, it is highly desirable that permanent facilities for the area would be left as a result of the Games.

The Technical Services required to support the localized administration of the skiing events will have to be located in temporary or newly constructed facilities as the present under roof areas are not sufficient to meet the needs of all the competitors, officials, spectators, workers, media personnel, et. These facilities must be situated at the competition area for the technical organization preparation and staging of the events will hinge on their efficient operation. Obviously the outside technical facility requirements for all skiing events are considerably more than the present day development has available. The physical requirements of cross country and jumping will have to be developed from their non-existent state and the alpine events somewhat expanded. The recommendations for the development of the technical facilities and services for cross country and jumping must be co-ordinated with those for the alpine events to prevent obvious duplication and unnecessary effects on the surroundings. The suggestions for the alpine events are to be found at the conclusion of this report.

#### Competition Background

The Alpine competition history of the Westcastle Ski Club has been limited primarily to local and divisional events. In the recent 1972-73 competitive season the club hosted their first International event, a FIS Calendar Giant Slalom and Slalom. This race, the Westcastle National, was very successful. To stage the event, it was necessary for the organizers to go out into the community and enlist the support of non-skiers to officiate at the races. The key personnel were keen skiers and they were able to obtain some additional support and experienced help from the Technical Committee personnel of the Alberta Division. This gave the race organization a technically strong contingent with which to run their resultantly fine meet. For the 73-74 competition season, it is hoped that the Westcastle Ski Club will continue to develop their expertise and experience with the staging of a Can-Am Series event.

There is no known existing competitive history for cross country or jumping for the Westcastle Ski Club. Organizing officials for these events will have to be drawn from every available source.

Weather and its Possible Effects

The weather at Westcastle presents some potential problems particularly on two fronts. Firstly, it is assumed that the Games will be staged during some period in February and this could mean that any major winter storm could greatly upset the time schedule of the day if sufficient snow, ice or blowing snow were to render the 26 mile access road impassable or extremely difficult to negotiate. It is logical that most of the service personnel will be housed in Pincher Creek and such road problems must be closely examined.

Secondly, the type of snow to be found in most areas on the East slope of the Rockies in February will be of the dry powder variety. Dry powder snow is the most difficult variety of snow to prepare to desirable competition standards. It is not impossible just much more difficult. While February is usually not the time period for major winter storms in the mountains, one can never be sure. Any storm with an accumulation of more than twelve inches of snow will present considerable difficulty for Westcastle particularly in the steeper areas where the snow packer becomes almost ineffective and avalanche potentials must always be recognized even if they are minor.

Because of the more southerly location of the Westcastle area, periods of warm Chinook winds and milder temperatures can be experienced in mid-winter periods and can create low cloud and flat light particularly in the upper reaches of the mountain area. With such fluctuations of temperature there is the positive factor that the dry snow may warm and melt a little and this can then be better compacted to provide the desired hardness for competition that is difficult to obtain with consistently dry snow and cold temperatures. Westcastle is recognized as being in more of a snow belt than the National Park areas of Banff and Lake Louise. The snow at Westcastle can be more towards the higher moisture content type that is found in Eastern British Columbia areas such as Fernie and Kimberley. On the other end of the scale is the problem of a lack of snow which might present difficulties if an unusual and extraordinarily dry and warm winter occurred. The techniques of snow movement for such a case must be considered.

In nearly all Western Canadian ski areas the month of February is the most desirable time for staging a skiing event as the bitterly cold period of the winter is normally passed and the hours of sunshine are increasing along with the daylight hours. The later the dates are selected generally can indicate warmer daylight temperatures and more sunshine. These factors have considerable bearing on the mobilization of the volunteer workers who are essential to perform the many outdoor duties involved in a competition of this magnitude. The Westcastle Ski Club will have to call on the experience of the personnel of other clubs in the Alberta area so that sufficient numbers of qualified officials will be available to stage the scheduled events in the desired manner. Training programmes should be initiated in the forthcoming seasons to prepare a nucleus of trained officials around which the volunteer personnel required to operate all the skiing events can be centered.

Scheduling of the Competitions

The scheduling of the events should be such that the competitors as much as possible are able to spectate at the competitions of their sister sports. If time permits, the hours of competition should be staggered so that both T.V. and the attending spectators are able to attend more than one event per visit to Westcastle.

In the Alpine disciplines, the ideal scheduling is in the order of Downhill, Giant Slalom and Slalom with Dual Slalom either before or after the Slalom. A full alpine format requires seven days and the Dual Slalom an additional day depending on its organization and number of participants. If no downhill can be held, the events should be Giant Slalom, Slalom and, if desired, Dual Slalom, on a team structure like that held in Saskatoon at Mount Blackstrap. There are other combinations of events that will produce a schedule of fewer days, however, they will not be representative of the specialized disciplines involved in the sport if one discipline is excluded.

Ideally from the alpine competition viewpoint, all three disciplines will be included and this desire, like cross country and Jumping, will require some development in the facilities presently available at Westcastle. In addition to the competition developments, support facilities of a temporary nature and those which could be of a more permanent nature are required to be developed to service the needs of the artificial demand level created by the Games itself.

Suggestions and Recommendations

The following suggestions for improvements and developments will ensure proper standards for competition in all the skiing events.

1. All developments and improvements for the Games events should, wherever possible, be in harmony with a master development plan for the total resort development.
2. Road access should be upgraded to paved secondary highway standards from Pincher Creek to the westerly boundary of the resort area.
3. Priority snow removal and sanding procedures should be established to ensure safe and easy access to the Westcastle area as soon as possible to create a known pattern of travel that will attract spectators to the Games events.
4. Permanent commercial service of essential basic utilities is required. Both the telephone and electricity source will be inadequate. Land lines are advisable so that after the completion of the Games, these essential services will remain to play a major role in the improving standards of living of the local residents and industries.
5. The present hybrid base lodge is inadequate to shelter, feed and service the needs of the public and the personnel directly involved with the Games. An examination of the direct and indirect needs of the Games should be co-ordinated with the development of a true Bay Lodge which would be capable of providing the basic service needs of the

Games while at the same time have a future resort area use. Additional support facilities such as Games office space, ski storage, waxing rooms, meeting areas, press centres, etc. could be provided in temporary trailer units which could be located in the presently developed and serviced trailer campgrounds.

6. For the Alpine events a downhill trail must be developed. The suggested standard should be that for Ladies events Internationally with a vertical drop of between 1,312 and 2,300 feet. This would provide an adequate facility for national standards for both boys and girls and provide an internationally rated course for ladies. Ideally, depending on the number of participants, separate courses should be prepared for boys and girls.
7. The downhill trail(s) must be served by a high speed lift system, preferably a chairlift.
8. The terrain that should be examined in detail for the establishment of a downhill is not in the presently developed area. The mountain immediately adjacent to the present facility on the western side presents some distinct possibilities for development. This area can provide the competition trail(s) and as a residual open up some badly needed gentle terrain for the lower ability skier who at this time cannot readily develop on the presently available slopes and trails of the existing area due to their overall steepness.
9. As Items 5, 6 and 7 are larger capital expense items and the Games are of such short duration, it is conceivable that the proper approach for the development of these facilities would be on an acceptable cost sharing basis with the resort company.
10. The Giant Slalom and Slalom slopes are presently approved by the FIS but recent competition experience with these courses suggests that further grooming and widening is desireable.
11. A water source with reservoir and a cold temperature sprinkling system is recommended for the entire slalom slope.
12. Temporary shelters (polyethelene and 2x4 construction) should be provided at all start gates.
13. Basic warming hut facilities should be developed at the top terminus of the present T-Bar lift and the suggested downhill access chairlift.
14. Each discipline of the Alpine events requires an electric timing hut with the necessary six pair of conductors between start and finish. Several intermediate control points are required for downhill. In addition it is essential that there be available to the organizers two sets of eight radios for the Race Committee and the Race Jury. Obviously the communication needs of Cross Country and Jumping will be similar with Jumping requiring the least of all the sports.
15. The technical control and support facilities such as waxing, ski storage, Jury Rooms, Calculation Room, Result Production and Administrative

offices should be located as near as possible to the focal centre of the Games. Ideally such services will be located in the suggested temporary trailer units. The requirements of Cross Country and Jumping may indicate a sharing of common facilities as a desired efficiency.

16. On site accommodation, if economically justifiable, should be expanded so as to accommodate on site the key personnel for both on-slope and in service areas. A condominium development plan with preferred use of units during the period of the Games being a condition of sale could provide a substantial amount of accommodation that would be attractive and highly desireable during and after the Games period.
17. The Jumping facility, including a 30 m and 50 m jump with Judges Stand, should be located as close as conveniently possible to the focal centre of the area, which should be the suggested new base lodge. The location of the jumping hill and its design should be developed in co-operation with the Jumping Hills Committee of the CSA. The regional chairman of this committee for Western Canada is Mr. Burney Gjervan, Profession Engineer, of Vancouver. Mr. Gjervan can be located at 3321 West 38th Avenue, Residence Telephone 266-9698, Business 684-8594.
18. Situating the Cross Country Start and Finish Stadium should not prove to be a difficult task but it would be desireable if these facilities could also be located near to the focal centre of the area thus reducing costs of road access, services and duplication of support facilities. The terrain on the valley floor and the gradually sloping lower slopes of the mountainsides, particularly those on the opposite side of the valley to the developed alpine area, offer a wide choice of terrain for the layout of courses. The layout of courses is principally dictated by the location of the stadium. Mr. Rolf Kjernsli, CSA Technical Director, Cross Country, is the proper person to co-ordinate the planning and development of the needed trails and the support facilities required for this sport. Mr. Kjernsli can be located through the CSA National Office in Ottawa. A communications network and service facilities for various points along the courses will be required.
19. Medical needs to service athletic injuries should be co-ordinated with the services provided in the area by the Canadian Ski Patrol System.
20. Press Room facilities should provide detailed result and T.V. coverage in a central media centre which would be a satellite to any main press centre established in Lethbridge for the total Games programme.
21. A transportation system will be required for athletes and officials between the mountain, their accommodation and Lethbridge. If a skier is to see any other events than those connected with skiing, it will require a major transport system geared to the distances involved.

Conclusion

The planning and development of the skiing facilities for the 1975 Canada Winter Games are relatively simple but not without cost. The benefits will be of particular value to the families of Southern Alberta as well as others who have and will as a result be able to develop a recreational or competitive skiing interest in the years following the running of the competitions. Hopefully the decision makers concerned with the facilities development will recognize both the immediate value and the long term benefits of the suggested improvements and recommended additional facilities.

The socio-economic impact of such properly developed ski facilities will be a measurable contributor to the well being of the communities of Pincher Creek, Lethbridge and their surrounding environs. Such a complete mountain sporting development will provide most nearby social and economic groups with the opportunity to participate in the skiing sport of their choice and means in an area that is naturally beautiful, readily accessible and hopefully efficiently operated.

The suggestions and recommendations found herein are intended to contribute to the proper development of facilities for the Games with a realistic utilization for the post games years. I know that if these facilities are established at this time, it will be catalytic in the recreational use of the area while broadening the sporting opportunity for many. It is essential that an overall master plan for the development of the full potential of the Westcastle area be undertaken to ensure that maximum value is received where Games facilities are constructed and such development is complimentary to the environment and the overall planned use of the area for the forthcoming generation.

To this end I am sure that my colleagues of the CSA and I will be more than happy to contribute to such development wherever possible.

Mr. Rolf Kjaernsli,  
Post Office,  
213 - 1st Street,  
Orillia, Ontario,  
K1B 5L1.

May 7, 1975.

Mr. Ian Howard,  
Regional Representative,  
Sport Canada-Recreation Canada,  
#402-1177 West Broadway,  
Vancouver, 9, B.C.

Dear Mr. Howard:

On April 28th and 29th I inspected the terrain at West Castle Ski Area, Pincher Creek, Alberta for the laying out of Cross Country trails for the Canada Winter Games 1975.

To my mind the terrain lends itself readily to the making of trails according to FIS specifications.

There were especially three areas that I pointed out to Mr. Dan McKim and that now will be explored in detail. For this exploration and for the making of profiles of trails within the above mentioned specifications a detailed topographic map of the area will be necessary.

I had discussions with Mr. McKim on the general lay-out of a trail system that would meet the requirements of the Canada Winter Games and future events. We also discussed other technical installations, the setting up of an organizing committee and the training of a staff to run the cross country meet.

I suggested that for the provisional lay-out, the cutting and preparation of the trails the ground-work should be done by local people according to general outlines already agreed upon. For approval or possible modifications CSA personnel should be brought in.

Yours truly,

*Rolf Kjaernsli*

Rolf Kjaernsli,

PK/ss

cc. Keith Nesbitt, Irvin Servold,  
Skip Sheldon, Dan McKim.

canadian ski association • association canadienne de ski

2.2 Southernmost tree line above timberline2.2.1 Location; Physiography; Drainage.

This region extends from the United States border at Waterton National Park along the political boundary with British Columbia and north to the headwaters of the Wapiti River. Its eastern boundary is approximately the 5000-foot contour. The factor used to determine the extent of this zone is primarily elevation.

The lower areas represent the change from the foothill classification to high mountains. The tree line, representing the upper limits of tree growth, is included within this zone. The elevations at the crest of the zone exceed 10,000 feet at mountain peaks. Topographically, the upper reaches of this zone are extremely rough with steep inclines and deep valleys.

The bedrock geology includes alternate strips of Triassic, Jurassic and Lower Cretaceous materials interspersed with Devonian, Mississippian and Permian materials.

2.2.2 Climate; Soils; Vegetation.

The climate of this zone is very poorly defined since most of it is difficult to reach and no locations have measured meteorological elements for a sufficiently long period of time to provide statistically reliable data. Accordingly, precipitation amounts and temperature regimes, the most important elements, are not available. However, the Meteorological Service of Canada carries out daily measurements of various data at high levels. From this, it is known that temperature variations may be from 70° F. in summer to -50° F. in winter. Freezing temperatures occur in every month of the year.

Summer drought and soil moisture deficiency during the growing season is common in well-drained valley bottoms and is a prime factor in determining plant growth. Winter weather is dominated by the Continental Arctic Air Mass which is overlain at varying altitudes by warm maritime air masses. The warm maritime air frequently is dried through lifting and

\* Region 5 on attached map.

and precipitation on the west side of the mountains and through downward motion and compression becomes very warm, giving rise to the Chinook winds. These warm dry winds give rise to rapidly fluctuating temperatures and snowmelt which exposes vegetation to severe temperature conditions.

Soil distribution in this zone varies from none on steep high slopes to a few inches at slightly lower altitudes and finally to depths of as great as 100 feet. Glacial and alluvial material washed down and deposited in stream shore lines is not highly productive. Soils formed under pine forests are mostly of the grey or brown wooded type, are frequently highly leached and deficient in nutrients. Some organic bog soils are found in poorly-drained bottom areas.

Vegetal cover shows marked differences between the southern portion and the areas to the north. Over 100 species of plants which occur in the south (Crowsnest-Waterton) are not found in the north. This, no doubt, is due to significant changes in climate from south to north.

Coniferous forests reach up to varying altitudes and their presence is dependent upon soil cover and climate. The coniferous forests described earlier in this report need no further specification, except to note that growth rate and size diminish with altitude. Between the coniferous forests and the barren peaks of the mountains is a zone in which herbaceous plants exist but in which no significant tree growth is present. This is the biologically fascinating and delicate alpine tundra. The environment is harsh and summers are very short, but special growth forms have adapted to these conditions to produce colourful vegetal cover. Prostrate forms grow along the surface, cushion plants wedge themselves in cracks and leathery heavy-leaved forms whose special adaptation conserves water are typical vegetal types. Among the common species are mountain avens and snow willow. Despite the harsh conditions, the alpine tundra growth produces nutritious vegetation for a surprisingly large variety of mammals and birds. Of special significance is the short growing season and the tundra's slow response to recover from unnatural environmental damage.

#### 2.2.3 Renewable Resources.

The renewable resources of this zone can be classified in four

main categories: water, timber, wildlife and fish. In addition, some limited grazing can be classified as agricultural.

#### 2.2.3.1 water

The cyclic distribution of summer rainfall migrates from south to north during the progression of seasons from spring to fall. Winter precipitation is highly variable due to the effects of terrain. Accumulated snowfall and consequent spring runoff are strongly affected by dry warm Chinook winds which have the capacity to remove snow cover at high rates. The area generally is an important part of the source of the river drainage systems. In the upper reaches, the activities of man are still not a large factor in affecting water quality or quantity. However, in the lower elevations, many of man's activities affect the quality of water. Removal of vegetation, surface disturbance of soil cover, roadways and artificial drainage systems all contribute to the degradation of water quality. Water is such an important element in the total environmental picture both to the immediate area and to downstream uses that its management should take precedence over all other activities.

#### 2.2.3.2 Timber

Timber in this zone is usually non-merchantable, slow growing and very difficult to regenerate. The growing season is short, the topography rugged and the soil types too marginal to sustain economic yields. In essence, the thrust of timber management in the alpine zones must be directed to the preservation of watersheds so that there is no deterioration in water quality or yield.

#### 2.2.3.3 Wildlife

The animals and birds which inhabit this zone show a very great variety since there is a highly variable climate, soil condition and vegetal cover. Mule deer, moose, Rocky Mountain elk, sheep and goats are the major ungulates. The carnivores are represented by grizzly and black

bear and cougar. Smaller mammals are represented by the marmot and squirrel. This by no means is a complete list. Blue grouse, spruce grouse and white-tailed ptarmigan inhabit various portions of the zone.

It is most important to recognize the migratory nature of most ungulates and carnivores. The competition for forage by the ungulates causes migration from higher to lower altitudes with seasonal progression. As a result, many of the ungulates move through all zones. In the alpine tundra regions, the white-tailed ptarmigan is a permanent resident and like its Arctic cousin adapts to seasonal changes with plumage change. Goats and sheep are residents which prefer the alpine tundra, as does the grizzly bear, mainly to escape the predations and disturbances of man.

#### 2.2.3.4 Fish

In general, the fisheries section of the foothills region is applicable to the alpine region, except for the following difference. With increasing altitudes and steeper slopes, the upper reaches of water-courses cannot be entered by fish. In the area which fish can reach, water temperatures are very low, thus excluding all warm water species. Low temperatures and short seasons prevent rapid production of food supplies in lakes and growth of fishes is very slow. High altitude lakes freeze over for long periods with the result that oxygen supplies may be reduced by snow cover which cuts off light to oxygen-producing plants.

#### 2.2.3.5 Agriculture

Agricultural activity is totally restricted in the alpine zone except for some areas of grazing which were previously mentioned in the Foothills section of this report.

ESTIMATED NORTH AMERICAN  
SKI MARKET 1970-1980

PROJECTED VOLUME OF SKIER DAYS  
IN CANADA

	Skier Days	Season	Skier-Days (thousands)	Percentage Increase	Vacation Skier-Days (thousands)
CANADA	1970-1971 1975-1976 1979-1980				
Total Skier-Days	10,000	16,000	22,500	1966-1967	6.4
Vacation Skier-Days 1/	2,000	4,000	6,800	1968-1969	8.0
WESTERN REGION MARKET 2/				1970-1971	10.0
Total Skier-Days	4,000	6,900	10,000	1975-1976	16.0
Vacation Skier-Days	800	1,750	3,000	1979-1980	22.5
UNITED STATES					
Total Skier-Days	25,800	38,200	50,000		
Vacation Skier-Days	5,200	9,600	15,000		
WESTERN UNITED STATES 3/					
Total Skier-Days	9,600	16,400	22,800		
Vacation Skier-Days	1,900	4,100	6,800		

1. Calculated at 20 percent, 22 percent, and 30 percent, respectively, of the totals for the seasons shown.

2. Comprises British Columbia, Saskatchewan, Idaho, Montana, and Washington.

3. Includes 12 western states: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

Source: U.S. Department of Commerce and Economics Research Associates.

Source: Economics Research Associates.

The following communities of Southern Alberta have sent letters expressing their support of the Westcastle Recreation Resort Proposal:

1. Town of Nanton
2. Town of Coaldale
3. Town of Taber
4. Town of Cardston



## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

What problems do you have, Mr. McKim, with snow in that particular area? I understand that over some period of time there were serious snow deficiencies.

MR. MCKIM:

Last year there was a very lean snow for most areas. We did not meet our snow requirements. But what we did receive remained with us and provided us with the best year we've ever had for skiing. I think we can say that skiing was probably good for most of the year.

In the past we have had avalanche problems on the mountain because it is a steep, open mountain and the upper slopes are prone to avalanches. We have made steps to correct this. Last year we used a gun called an avalancher, which shoots a charge out and, on impact, it explodes. It's a compressed air type of gun.

We do daily forecasting for avalanche problems. Within the last month we received a Lands and Forests weather station and twice a day we report weather conditions to the Department of Lands and Forests in Blairmore. We're hoping this can be tied in with the Department of Transport group here in Lethbridge so the public can have access to information on what is happening on the mountain.

MR. KINISKY:

Do you have a legal or any other commitment to provide skiing facilities for the Winter Games?

MR. MCKIM:

Right now we have really no legal commitment to provide facilities. In fact we cannot take on a legal commitment as yet. The main holdup is that we are a private company and it's a very difficult task to secure public funds for a private company. We are hopeful that if the provincial government provides road maintenance, power and telephones our capital assets will increase and give us power to borrow additional funds to meet these requirements. We are also exploring other methods of financing.

MR. KINISKY:

When you talk about necessary expansions, what are you talking about as far as land areas are concerned? How much land?

MR. MCKIM:

Let me start first with the ski lifts. With regard to the intermediate lift on Mount Haig, initially you'd take in probably another 600 acres under a licence of occupation. If we were to expand into condominiums and a pitch and putt on the valley floor, you're looking at probably another 50 to 60 acres under miscellaneous lease. If we go further down the valley, three-quarters of a mile or a half a mile, for this other lift on the open slope - 2,000 feet vertical - where do you draw the line on a licence of occupation lease? That's what we're asking there. There would be nothing more on that particular piece of ground than the lift tower and the cables.

MR. KINISKY:

What is the maximum demand for land use as far as area is concerned that you think West Castle would ever make?

MR. MCKIM:

It's difficult to answer that because skiing is growing so rapidly. If we just say, "Okay, we'll take 100 acres and that's all we're ever going to ask for," I think that's incorrect. For the people who want to come in to ski we can't say, "Listen, you have to buy your ticket by telephone a week before you come." This is what happened of course in some areas of the United States.

MR. KINISKY:

Could you give me a rough guess as to present limitations; say 3,000, 4,000 or 10,000 acres?

MR. MCKIM:

Right now on the mountain we're holding about 645 acres for ski lifts and slopes under a licence of occupation. On the valley floor we hold 30 acres under miscellaneous lease for base facilities. I would think that we would probably require an additional 100 acres of the valley floor, extending a mile or a mile and a half to the south towards the headwaters of the West Castle. Once you open up Mount Haig, you would have to take into consideration a face of approximately 3,000 acres under a licence of occupation.

MR. KINISKY:

What degree of control does West Castle want on this land? When you have the lease you can do something about controlling access to the property. Do you want to exercise total control over what could amount to close to 4,000 acres?

MR. MCKIM:

No, we want total control of the miscellaneous lease area on the valley floor for base facilities. In other words, we would want the right to say to a member of the public, "Listen, we're closed. We don't want you near the facilities around the lodge because no one is looking after them at the present time." That's what we want on the valley floor. With regard to the 3,000 or 4,000 acres of skiing terrain, I don't think we can ask the public to stay off, refrain from picking berries or whatever.

MR. KINISKY:

I am very interested in your condominium proposal. Are you talking about condominiums which are built by private funds for the exclusive use of the owners?

MR. MCKIM:

They would be built by private funds, but there would be no exclusive use by the owner. This would be a clause of construction. We must have the right to rent a condominium out for the owner on a percentage basis. In other words, he could use it as an investment opportunity. For us as ski area operators it allows the public to come in, stay on site and provide us with the lift ticket which initially is our source of revenue.

MR. KINISKY:

For how much of the time during a ski season would a condominium owned by somebody be used for his exclusive use?

MR. MCKIM:

In the past three years we have operated for 74 days throughout a season. I think there would be a split in there, either 80/20 or 60/40. There would be 60 or 80 for the owner and the balance would be for our use. If at any time during the 60 or 80 days he notified us that he didn't want to use it, we would try to rent it out for him.

MR. KINISKY:

Since we're talking about a forest reserve, an area which many people feel should be retained in its wilderness state, I have some concerns about the business of utility installations, particularly power lines and telephone lines. I'm concerned about the utility corridor which would be required to take care of these two utilities. How much land would be tied up with this utility corridor going out to the border of the forest reserve and into the West Castle development?

MR. MCKIM:

I don't think any land would be required other than what is there now in the way of the road. For the last 6 miles of road, we were required to build on a 100 foot right of way and there's ample room on either side of that road for a power line.

MR. KINISKY:

Are you requesting that this utility installation be put in at the cost of the public purse?

MR. MCKIM:

Yes, I am.

MR. KINISKY:

You also talk about the viability of a possible utility installation to serve additional developments. Do you feel the West Castle valley will have developments of another sort once we bring in power and telephones? Will other commercial developments be proposed for the forest reserve in this valley?

MR. MCKIM:

It's hard to say what will happen in the future, but you will have another proposal this afternoon from a group that could benefit from this power supply. The Canadian Youth Hostels Association, which presented a proposal yesterday, could also benefit. As for the future, I don't know.

MR. KINISKY:

In the event that you suffer a financial loss and have to abandon the development, who then is left with the responsibility of returning the valley to some semblance of its original form?

MR. MCKIM:

We are financed by the Alberta Opportunities Corporation, in other words the Government of Alberta. It would have the responsibility as I see it.

MR. DOWLING:

What do you consider to be your market area for the facilities available at West Castle?

MR. MCKIM:

I consider the market area south of Calgary, in other words a population of approximately 174,000 people in the south and within the boundaries of Alberta. Approximately 74.5 per cent of those people are capable of participating in some form of outdoor recreation.

MR. DOWLING:

You don't include the City of Calgary in your calculations?

MR. MCKIM:

This is probably another area where the initial project went wrong. It concentrated on the market of expert skiers in Calgary and neglected the southern Albertan, the person who hadn't tried this great sport. I am now turning this around and saying, "Okay, this is for southern Albertans first." Then, if something grows out of it, we can expand and ask people to come in from Calgary and from the 100 mile strip extending from here to Saskatchewan and Manitoba. But first we intend to build our market around the local people.

MR. DOWLING:

I understand that in the past you had some difficulty making the operation financially viable. How close are you to a break even point? What increase in your business do you require to start making money?

MR. MCKIM:

Last year we increased 24 per cent. It shows in the books as within \$3,000 of breaking even.

MR. DOWLING:

You are virtually there then, I presume?

MR. MCKIM:

Pretty close. In fact our place came close to being shut down two summers ago when it was placed in receivership. Fortunately, three or four months prior to that we had made application with the Alberta Opportunities Corporation.

MR. DOWLING:

Concerning the Winter Games, of course if you get a legal commitment from them you're going to be under considerable pressure. What was the origin of the application for the Winter Games? Did it originate here in the City of Lethbridge?

MR. MCKIM:

Yes, the bid was put together in Lethbridge by southern Alberta people, in other words representatives from 13 regions in southern Alberta. This was a unique approach to the Winter Games.

MR. DOWLING:

Have you experienced any uncontrolled avalanches on the site which would be a hazard to the public, or have you been able to develop control techniques whereby you can obviate any danger?

MR. MCKIM:

As an example, two years ago there was an extreme snowfall throughout western Canada and at that time, prior to the winter, we initiated a snow control program and trained a man in Roger's Pass. Every winter we bring him back and give him the total responsibility of looking after the mountain. We have had no major avalanche problems.

MR. DOWLING:

During what period, in relation to a storm for instance, do you normally exercise your avalanche control?

MR. MCKIM:

We do it immediately after the storm or if the storm is still going on, prior to opening the lifts to the public in the morning.

MR. DOWLING:

I understand that within the valley in the upper West Castle there are timber leases. Have you any knowledge of these and of the extent to which clearing has taken place?

MR. MCKIM:

I'm not happy with it, but I've seen it. I think that the logging operation there, like most of the logging operations elsewhere, has been just a little bit too much to bear. They use the standard answer that it is necessary to remove timber because of beetle kill and so forth. But they have attempted to clean up the upper reaches of the river, they have reseeded some of the areas and since last summer no further logging has been proposed for that area. That's what the Lands and Forests people say.

MR. DOWLING:

Their work is now complete then?

MR. MCKIM:

Yes.

MR. DOWLING:

The last time I visited the region I was in the company of a wildlife biologist who said that the terrain between the trees and the rocks is ideal grizzly bear country. Have you ever seen any grizzly bears on the slope of Mount Haig or Gravenstafel Ridge?

MR. MCKIM:

I personally haven't seen any grizzly bears on the mountain. For the past three summers including the summer of this year, we have conducted an outdoor recreation program through the college. One instructor did see a grizzly bear with cubs on our mountain. Last year we had a good number of black bears in the area and this year we have seen one.

MR. DOWLING:

With regard to water supply and sewage disposal, have you had any difficulty in meeting government regulations?

MR. MCKIM:

No.

MR. DOWLING:

You mentioned that you would provide facilities for hiking and sightseeing in the summer and ski touring in the winter. Would the price structure of your summer facility be such that it would attract hikers? These people normally work on a fairly low budget.

MR. MCKIM:

The hikers are free to come in during hours of operation and leave their cars in the parking lot. If they wish, they may stay in the lodge. We have guest rooms in the lodge that are kept open throughout most of the summer for anyone who wants to come in. Prices for these rooms are probably lower than prices for most of the motel rooms in this city.

MR. DOWLING:

To proceed with the proposal, have you undertaken financial investigations so that you will have some level of certainty, should approval be received by your company, that financing will indeed be available for the work?

MR. MCKIM:

No, but we do feel that we require a minimum of \$350,000 to do initial work on the lodge, the day lodge, and the conversion of the present lodge.

MR. DOWLING:

Can you advise who is going to control and regulate the construction and operation of the condominiums, because my understanding is that these will be privately owned but will be on land subleased from your company?

MR. MCKIM:

We would have to control it. I think this is the only way. We've lived with the regulations and policies set forth by the Department of Lands and Forests, and I think that to keep the control we should have the final say on what type of audit checks goes in, who is allowed to build and who we rent these units to.

MR. DOWLING:

Is it your intention to hire a landscape architect and planner for the preparation of the plans and the period of construction?

MR. MCKIM:

For the chalet size and for some of the matters here, we worked closely with the Oldman River Regional Planning Commission of Lethbridge. We also used consultants from other ski areas and lately, a fellow out of the Pacific Northwest and Canadian Western Ski Area Operation.

MR. DOWLING:

Why do you feel a heated swimming pool and asphalt tennis courts are necessary?

MR. MCKIM:

I feel that the heated swimming pool is an attraction for people who might stay in the lodge. Now this is probably where I disagree with most of the people in the audience, but I believe we must have some programs planned for people when they arrive at a destination. Among things that are easy to plan are swimming pools, and places where they can play ball of some type. This is what I mean.

MR. DOWLING:

If you develop a trail-riding centre there, will you have horses on open grazing or will you be trucking in feed?

MR. MCKIM:

Under existing policy of the Department of Lands and Forests, we would have to feed them daily. There would be no grazing.

MR. DOWLING:

Concerning the possibility of forming a lake in the West Castle River, have you any idea whether the soil there will in fact impound the water necessary for a lake?

MR. MCKIM:

Looking at the area with my limited knowledge, I think it would hold.

DR. TROST:

Mr. McKim, I wish to sort out what part of your proposal is definitely associated with the Winter Games and how much of it is independent of the Winter Games.

Can you tell me if you would have gone ahead with your proposed project if the Winter Games had not been proposed for Lethbridge?

MR. MCKIM:

Yes, we have to go ahead with it if we are to survive. In order to get away from this steep mountain and into a situation which they can handle, we have to expand. This is basically what it boils down to.

DR. TROST:

So your plans for expansion are current and ongoing, but the Winter Games is an extra spur to these plans?

MR. MCKIM:

Yes.

DR. TROST:

When Lethbridge made its application for the Winter Games, did it include your name concerning a possible site for a part of the Winter Games?

MR. MCKIM:

Yes, they did.

DR. TROST:

Did you have an understanding with them at that time?

MR. MCKIM:

We felt at the time that we should be left out of the bid presentation, any contractual arrangement, because before or after the bid has been accepted we must become a legalized society and from there a contract is drawn up. We are just finishing the legal end of forming the society and from there we will go into our contract arrangements.

DR. TROST:

In most cases, when winter games are involved, the city, the province and the federal government are involved, both in the decision as to where they might be and in a support program for them. Do you have any reliable indications of support from those three levels of government?

MR. MCKIM:

It has been indicated to me that we will have some type of support from the federal people and, pending meetings with provincial bodies, hopefully there will be support from that level as well.

DR. TROST:

Will that be for capital costs, for operating costs, or for both?

MR. MCKIM:

Operating costs for the ski competition are in the budget. That was with the initial bid. What we are really talking about is the capital money, and we need capital money from these levels of government.

DR. TROST:

I believe the stages that you describe for the expansion of your program go beyond the Winter Games?

MR. MCKIM:

Yes.

DR. TROST:

But are the ones that lead up to the Winter Games sufficient for you to take on that task?

MR. MCKIM:

Yes, they are.

MR. DOWLING:

Are those costs on the order of \$350,000?

MR. MCKIM:

Yes, they are.

DR. TROST:

Would all of the capital costs come from levels of government or would you have to raise some of that yourself?

MR. MCKIM:

I expect that the company will be responsible for raising at least some of it themselves. I think this is fair.

DR. TROST:

Do you know how much of it you will have to raise yourself?

MR. MCKIM:

No, I don't.

DR. TROST:

What is the equity situation in respect to these developments leading to the Winter Games?

MR. MCKIM:

I really don't know if I can answer that now. I think it would depend on what type of arrangements were made initially with these levels of government, for example, whether the jumps stay or whether they take them down, put them in storage and set them up in 1976 somewhere. I really don't know.

DR. TROST:

In any event, the commitment of the city and the province to the Winter Games for this period of time is firm, but the preparation and the commitment of West Castle to make provisions for the games is not yet firm?

MR. MCKIM:

That's right.

DR. TROST:

Do you sometimes feel uncomfortable?

MR. MCKIM:

Yes, sir.

DR. TROST:

With regard to your time schedule, are you now experiencing trouble in your preparations for the Winter Games?

MR. MCKIM:

I think that beyond August 1 we will be in trouble. I say that because to lay out a ski lift properly you have to know not only where you are going to put it, what the slope profile is, but where you are going to put your trail. It takes a lot of walking and since this first lift is wooded with jack pine it is difficult to see through it.

DR. TROST:

What is the date of the letter from Lands and Forests in which they approved in principle certain things for you?

MR. MCKIM:

I think the letter was dated August of last summer.

DR. TROST:

Have you had any further commitments or approvals in principle from the several levels of government with whom you were associated since the Games were committed?

MR. MCKIM:

No. What I did was indicate on an aerial photograph the additional land we felt we would require and then I submitted that to the Lands and Forests people. They wrote back and said, "Until the hearings have been completed and the results analyzed and published there will be no movement."

DR. TROST:

Is the City of Lethbridge thinking of any alternate site for the ski part of the Winter Games, in case you run into difficulties?

MR. MCKIM:

They have two additional proposals. One would be the existing facility at Blairmore which consists of a couple of rope tows which didn't operate this year. I don't think they had snow on the ground for more than a week because of chinook problems.

The second possibility for a site would be one of the coulees on the river bank. But this would give them only 300 or 280 vertical feet which isn't sufficient for the competition, and again you're looking at weather problems.

DR. TROST:

So your alternative is the only remaining plausible alternative?

MR. MCKIM:

Right now I don't think there is any probable location that they could consider.

DR. TROST:

Have you discussed these conditions necessary for viability with any departments of government?

MR. MCKIM:

We discussed snow removal, by correspondence only, with the Department of Lands and Forests, the Department of Highways and the Department of Municipal Affairs. At the moment they, too, do not want to move very fast.

DR. TROST:

Will support for this development in connection with the Winter Games be presented on your behalf this afternoon from the City of Lethbridge or from other groups of citizens?

MR. MCKIM:

I think there will be support from the specific proposal which will follow ours. There is definitely support from the town and M.D. of Pincher Creek and certainly from the Lethbridge Southern Alberta Winter Games Society.

DR. TROST:

Is there support from the City of Lethbridge itself, to which the Winter Games have been given?

MR. MCKIM:

No, the Winter Games have not been given to Lethbridge. They have been given to Lethbridge/southern Alberta in accordance with this regional concept.

DR. TROST:

Then Lethbridge is part of the southern Alberta group?

MR. MCKIM:

Only one part of it, yes.

DR. TROST:

Have you had written support from the group sponsoring the Winter Games?

MR. MCKIM:

No.

DR. TROST:

Would you get it?

MR. MCKIM:

Yes.

DR. TROST:

Will other citizens, groups or associations either speak for you this afternoon or, on your request, provide written support for your proposal?

MR. MCKIM:

Yes, I'm quite sure.

## DISCUSSION ON CASTLE MOUNTAIN RESORT PROPOSAL

MR. KYLLO:

Leo Kyllo, Western Conservation Foundation.

With all due respect to Mr. McKim, many submissions which we have heard the last few days do not see West Castle as being their own. Some expressed very great concern about the development.

Some expansion has recently taken place without hearings. It was possibly the position of the government in the past to allow this but I question whether or not further development should be considered just on the basis of past performance.

This proposal should be scrutinized as to its size, possible expansion and the amount of public land to be retained for exclusive use. Permanent private accommodation must not be allowed. There is not much difference between a chalet cottage in that area and a cottage in any other area in the forest reserve. The proposal requests public provision of a highway, high maintenance and utility services. This should only be considered after a public hearing involving the citizens of the region and governmental authorities. The benefit to the public of southern Alberta must be worth the burden upon the tax dollar. Perhaps the details of the integration with regional needs and the clientele involved would be answered as well by such a hearing.

The compatibility of the development with the environment should be strongly questioned. In particular the proposed lake, snow-making facilities, the increased lift lines and runs and the golf course generate environmental problems that must be considered. As well, other resource capabilities in the area should be examined. There are economic benefits from other developments besides a private resort. I would point in particular to hunting, fishing and general recreational use.

It seems that some of the year-round facilities proposed can well be accommodated without such a resort. I refer in particular to hiking, camping and cross-country skiing, which do not require the accommodation that is proposed by West Castle.

MR. SHARP:

Bill Sharp, Department of Biology, University of Lethbridge.

I have some concern about the amount of development that Mr. McKim has been proposing here. How many of these condominiums and chalet units are being proposed or are expected to be developed in this area?

Another question is, how many permanent residents would be required to service these kinds of facilities for the full year of operation?

The answers you give here would affect some questions we have about the sewage disposal system. You mentioned you have 3,000 square feet of drainage area along this septic tank arrangement. Are you planning on providing any facilities for these condominium developments? If I remember correctly you said that the current field disposal system is under the corrals, which are on the east side of the road going past the ski resort. I believe that's quite close to the river. If you expand that wouldn't there be some danger of the

porous soil allowing drainage of sewage materials into the river and contaminating some of the areas there?

One of the reasons I bring this up is that the ECA and the general public may not be aware that the university has a biological field station about a mile and a half downstream from the ski resort. This station is located in the West Castle valley and was set up at a cost of between \$15,000 and \$20,000 of public money to serve as a basis of operation for ecological research and the teaching of field biology courses. We are rather concerned about the deleterious effects on the general environment of the area by the development of what appears to be possibly a large commerical resort-type development for year-round activities. Under the conditions of our field work and general studies out there it could create quite a problem for the biological study of natural and relatively untouched areas.

Another aspect of this same thing is the possibility of contamination of the water. The field station at present takes its water supply from the river and if there is contamination of the stream it could create problems for some of our water supply there.

The other thing I would like to question is the necessity for enlarged parking lot facilities for a two week period during the Winter Games. Have you actually investigated the possibility of bussing people in from Beaver Mine or Pincher Creek? The Sunshine ski operation in Banff already is very successful in carrying out bussing activities from a parking lot some distance from the ski resort. It seems to me that it's asking a bit much to considerably expand the parking facilities for use during a two week period only.

MRS. SHEPPARD:

Mrs. Jean Sheppard.

I'm disappointed that this brief was not presented at Coleman where most of the people affected by it live and could have easily come to the meetings. I do not think there are that many people here from the immediate area.

I'm mostly concerned about the number of trees that are going to have to be cut down for all these facilities to be built - extending the new day lodge, the chalet, et cetera, et cetera. I'm wondering what effect this will have on the watershed of the region which, as we have heard time and time again throughout the meetings, is very critical to the Oldman River basin.

I'm also interested in the number of people you are planning for as on-site residents in the future. I believe you have accommodation for 60 now.

You say you have capacity for 900 skiers a day now, but what is the capacity going to be in the future?

I think your estimate for the number of cars for the Winter Games is probably too low if you have ignored the Calgary population. It's only about an hour's extra drive from Calgary as compared to Lethbridge.

MRS. SCHULER:

Mrs. Helen Schuler from Lethbridge.

I have several questions that are bothering me. You're speaking of water impoundments, but have any impact studies been done by

wildlife and fisheries biologists or water resource personnel on the environmental impact of this type of thing? I would be concerned very much about this particular area, especially about water impoundments and the cutting off of access beyond the valley for hikers.

Do you really consider that with an area as beautiful as you describe this particular corner of the woods, a heated swimming pool and a tennis court are necessary? It seems to me to be unnecessary. Why can't you put some of your accommodation facilities at Pincher Creek and, as suggested previously by Mr. Sharp, bus people in instead of requiring all this building in this area?

I must state here that I have no real quarrel with your skiing facilities there because I have talked to biologists and they seem to feel that there is little undesirable impact as far as winter activities are concerned. I have heard that this is good grizzly country. Before when there has been conflict between humans and grizzlies, the grizzly invariably has come out second best. This, of course, refers to the period when grizzlies are out of hibernation and in winter this doesn't concern you.

MR. SHEPPARD:

David Sheppard.

Once again I think this is an example of growth decided somewhere else dictating our management decisions. I think it is a very bad way to do things. Someone, somewhere has decided that the 1975 Winter Games will be held at West Castle and now we find ourselves in the position of having to expand the facilities there to accommodate them. That is not the right way to manage the eastern slopes.

I'm opposed to this kind of commercial development within the forest reserve boundaries. I wonder if alternatives, such as the Crowsnest Pass, have been looked at and if they have been looked at thoroughly because that area certainly needs an economic lift apart from the so-called lift that will be provided by the coal industry.

I think this has to be looked at a lot more carefully. I realize time is extremely short now because of this commitment. But I would like to ask this question specifically of Mr. McKim. How many of these Games competitions you have mentioned will require new facilities at West Castle? I'm thinking specifically of the slalom. I don't know anything about skiing so I don't know the names of them. Could these not also be provided in the Crowsnest Pass somewhere?

As to the future of this development, there is, in my opinion, no evidence as to when the growth of this thing is going to stop and how many others of these types of developments are going to be allowed in the area. If we let this one grow must we also let in others? I think this is a bad precedent and the resort should not have been started on this basis. If a ski resort was necessary in that location it should have been government-run. They are government-run in Saskatchewan and they operate quite effectively even though there are no hills in Saskatchewan.

As far as the running of the place goes I suggest that the government take over this operation for the summers, if not completely. It can function as a downhill ski area for southern Alberta and should not be used for the Winter Games unless existing runs can be used. It should continue to be used as a ski area but as just one of the ski areas for southern Alberta. Why not develop another one in the Pass?

In the summers it should be run by the government as an educational facility. I suggest that you hire Mr. McKim to run it because I was most impressed with his presentation. I thought it was excellent. It's a pleasure to hear a commercial organization which doesn't try a 'snow job' in its presentation. It should be run as an educational facility for school classes and youth groups. We have had requests from youth hostels for this kind of operation but I think the government could run it much more effectively and much more fairly and could eliminate the kind of elitist atmosphere that could develop in a privately-run educational facility.

MRS. BRUNS:

Mrs. Louise Bruns. I have four questions for Mr. McKim.

First of all, I understand he would like about \$350,000 to be poured into the operation by the three levels of government. Now when and if this operation becomes viable the owners of Castle Mountain resort will be the ones who make the profits. What will the public get back?

Secondly, why should the public pay for the electricity, natural gas and telephone? If a private citizen builds a house in the country he pays for these himself.

Thirdly, and this is a concern of many people, where will the development end? Will it become another Banff?

Fourthly, how do we get to the head of the valley for hiking, hunting and other recreational activities once Castle Mountain resort has control of the valley floor?

MR. MCKIM:

I think it is great that we are starting to get some input. I'll go through and answer the questions as posed by the people who have responded.

First, Leo, you asked that there be no private permanent accommodation within the forest reserve. The only thing I can say to that now is that we have been permitted to build a lodge and build duplexes and I will just have to turn around and rephrase your question and say that this is permanent private accommodation. If you mean further development, such as subleasing the land for chalets, I think what I was trying to say in my brief was, we want control as a private company on 'who' and 'what' and other conditions of day-to-day living in that area. Of course we do feel there is a need for further private permanent accommodation in the area, even if it is controlled by Castle Mountain resort.

I appreciate your concern about the utilities and your proposal for a hearing to be held with both the local people and the government agencies responsible for this specific utility.

You do not feel that we should have a lake? Quite frankly, deep down inside I don't either but I have to answer to my board and they feel that a recreation area isn't a recreation area unless there is a body of water in order for people to partake in water recreation. This is why that was in there.

At the present time we make no snow on the mountain. That is, we aren't pumping water through a compressor and spraying the slopes to make snow. That isn't there at all.

I made reference to the CSA evaluation in which they suggested that a sprinkler system be put on the mountain. At the present time we do have a water system on the mountain, in other words an inlet at that level, at the top of the swollen course. It is in the ground there so it would mean simply tapping that present system to spray the slope. I really don't know what you are trying to get at with the snow-making but I'll ask you later.

I don't know if you saw the five year study or the one that is here now. What I mean by a golf course is a pitch-and-putt type course, not a regulation-size golf course. I don't know much about them either. There is an area for it, a flood plain of the river, treed now with secondary growth and spruce coming up and with good open spaces and shrubs throughout. Building a course would entail very little work or tree removal. I think that on this idea we haven't, or at least I haven't, made any point of removing trees where I could situate something in an open area. We have tried to get away from destroying trees as much as possible. We feel that the golf course falls into the same realm as the swimming pool and asphalt play court.

Not all of us are capable of going out and hiking. Maybe we don't want to but we do want to be able to go into the mountains and play a little golf, tennis or basketball or go for a trail ride. So we have a full range of activities that we are dealing with. Unfortunately we can't satisfy everyone.

Bill Sharp asked for a definite number of chalets and condominiums to be stated at this time. I cannot state that now because we don't know exactly what the demand would be for these. We feel there is some demand now but we haven't really done a market study to figure out exactly how many are needed, what periods of time should be involved or what stages of development this should take. I can't give you any further answer.

A question was asked about the number of permanent residents. I think that initially, with the ski lift, the conversion of the lodge and the day facility - the permanent residents in the valley are two people right now, myself and my wife.

We have been very fortunate, particularly in the winter, in hiring local people, ranchers and people not normally employed during the winter season, and this has provided them with some form of revenue during the winter.

Definitely if condominium development did go ahead, one of the prime concerns would be the sewage disposal system and how we would handle that. This is a technicality. You can slough it over if you wish but I don't think we wish to slough over something like that now or in the future. So we will be taking it into consideration with the feasibility study for condominiums.

The present field for the septic tank is approximately 170 to 200 yards away from the main course of the river. It has been approved by the Department of Municipal Affairs, plumbing and health inspection people.

You are concerned about the contamination of the water supply for the University of Lethbridge biological station. I appreciate that concern and I appreciate the concerns involve us all about the pollution of water because I think if West Castle has anything to offer the West Castle River, it's a water resource.

As to parking for the Winter Games: even with the addition of a lift on Mount Haig we would require additional parking facilities. I did not say that we would have to cut trees to enlarge our parking. There is open space immediately adjacent to the entrance gates. There is another open area about three miles further the road. Right now there is a gravel stockpile there and if you out that way you can look at the area. This could certainly be made into parking for the Winter Games. In the spring it's right back to what it was. From there you would have to have a shuttle service but it amounts to a round trip of six miles.

Mrs. Sheppard asked why we made our presentation in Lethbridge rather than Coleman. Although both Lethbridge and southern Alberta applied for the Games Lethbridge is receiving the lion's share and what happens out there concerns Lethbridge more deeply. Further, our skiers are basically from Lethbridge and I think that is why I decided to come into Lethbridge.

You asked about trees being cut in the watershed area. I think probably in my earlier comments I may have covered that for you. I will just reiterate that we don't intend to cut unnecessarily. We are trying to build something that is pleasing to everyone's eyes. Again, unfortunately, one can't please everybody when any type of development is done anywhere.

You also asked about the on-site residents. With the \$350,000 of this initial phase of development you don't need more than one or two people living in the lodge. There would probably be a total of four people out there to operate that place through the summer months. I am proposing this year, as opposed to last year, that in the wintertime we have no employees living on-site other than myself and the people who will have to be in the lodge to manage it. In the past we have had approximately seven to eight people living on-site. Most of these people were living in cottages, as well as trailers which were brought in and they used the facilities of the lodge.

I think you are probably aware of the number of spectators per day we can expect, from the numbers that came to Saskatoon for the Canada Winter Games. I may be low, I don't know. I think we can push it higher if you want, but personally I would just like to leave the spectators around 1,500 per day with about 200 athletes on-site on a competition day. With skiing you will have another 200 volunteers to run the races. Over and above that I would think you are looking at media personnel and that type of thing. So probably you are pushing close to 2,500 total people on-site.

I hope I answered all your questions.

MRS. SHEPPARD:

Mrs. Helen Sheppard.

On page 3 of the appendix I believe it says there is accommodation for 60 people in dormitory and motel-style rooms. I was asking what accommodation on the site there would be in the future once you have the condominiums, the chalets et cetera built, not how many employees there are in the place.

MR. MCKIM:

Until a market survey and feasibility studies are done it is difficult to answer that question. What we are doing here is making a proposal for things we feel we need to be a viable ski area. We really haven't looked at specific numbers as such at this time.

MRS. SCHULER asked whether or not we had impact studies on water impoundment or had done any, and my answer is no. I think there's no need to pursue this any further.

I do feel, as I said earlier, that there is a need for programmed activities for any person coming into the area and this takes the form of a heated swimming pool, trail rides and a play court. Some people do want this type of activity in that type of setting. They can have it in Lethbridge, they can have it in Pincher Creek, Claresholm or wherever, but they also want that little bit extra and this is what we are trying to give them.

You suggested that there be accommodation at Pincher Creek and I agree. I agree that every little community that is within 60 or 75 miles of West Castle should be plugging its own programs: come and use our facilities in the winter months, stay with us and ski at West Castle. But it is not for me as an area operator to promote them. I'm there and they should be using me. In the past we have tried to work in reverse and try to help out the merchants. We're willing to sit down and outline a program with them but we certainly aren't willing to carry their advertising load because we simply cannot do it. What I am saying is that the accommodation is there and it is up to the merchant to make it marketable.

Your fourth question was about that particular area being grizzly country. I really don't know how I can answer that as I have not seen any myself. I do not know whether we can say that because the two of us have been there alone for most of the year, 6 months out of 12, we would cause grizzlies to leave the area. I really don't know. I think there are a couple of lads in the audience who could give us some answers to that particular question if they're so inclined.

MR. DAVID SHEPPARD is opposed to this kind of development in the forest reserve and suggests that we look in the Blairmore Corridor. I can answer that, as far as I know there has been a ski area in Blairmore. They were not successful simply because of the prevailing warm chinook winds that can come through the Pass. There are possibly areas immediately adjacent to the corridor. I have certainly not had the time to explore this. I do know that there was one group out of Calgary considering Blairmore for the establishment of a ski area within the last year. But I think they're a bit afraid of the climatic conditions.

You asked how many of the new facilities are required for the Winter Games and I can say those that I have set out are required: the lift, the renovation of the hotel or the lodge, and the new day lodge.

MR. SHEPPARD:

You misunderstood my question. It had to do with the events that would be held there. How many new runs, new scars on the mountains, will be needed to accommodate those events? If you would go through the events I would appreciate it. My question is, could any of the events be held there now with existing runs?

MR. MCKIM:

Yes, I believe in all fairness I have to answer that the giant slalom and slalom competitions and the alpine competitions could be held on the present south run of the mountain. But we cannot hold the downhill alpine event on the existing mountain. What we are saying is that the mountain immediately to the south, the ridge of Mount Haig, would be opened up and used first for the Winter Games as the downhill trail and afterwards to provide the intermediate skiing that will

ensure our existence. Other than that particular trail, which would vary I would think between 150 and 200 feet in width, you would have various configurations of trails on that slope. I would be guessing but I would say in total acres you are probably looking at 350 to 400 acres of jack pine you would have to cut for that run. That is on the mountain.

I have answered the second part as to whether these runs or competitions could not be held in the Crowsnest Pass. From what knowledge I have of the climatic conditions and the length of mountain they have available in the Pass, no, they could not be held there.

You suggested that the government should take us over and allow us to operate the ski competitions during the winter months and then operate the facility for the public during the summer months. All I can say is that if we aren't too careful and we're not too fortunate in our efforts to find additional financing, the government will have it. At this time I really don't think they want it. I would like to take this opportunity to thank you for your nice comments.

Mrs. Bruns, I think you misunderstood me. I am not asking for a straight donation or grant of \$350,000 from the three levels of government. If they want to do it, that's fine. But I'm sure they don't. We have formulated plans regarding a proposal for the society to carry to the government and I made mention of this earlier. We're also in the process of fighting ourselves and finding ourselves additional financing and I think that we will be successful. If we did receive money from the government in the form of a grant, I could understand your wondering how the public will be reimbursed. I think the best way to handle that situation, if it ever does arise, so we all have a clear conscience, is that it not be a grant but a loan that we pay off as a private company.

You ask why there be public funds for utilities. My comments to that are that we feel - I think this is why it makes it particularly hard to be up here today and do this - we feel that we are providing some type of service to many people in the South and people who are starting to really turn on to this thing called skiing. It's just like you wanting a swimming pool here in the city. Sometimes there is private money put up for it and sometimes there is a cost-sharing agreement with the city. This is a comparable idea to what we are asking for.

We'll provide the uphill facilities, we'll provide the basic services on-site. But before we can do this and do it so that it satisfies the needs of all people we require these basic utilities. I'm sure it can be compared to your building a house. It costs you a portion of what the true value is to have the utilities brought in. So if it would be easier to take, then I'm sure we'd be willing to look at some type of cost-sharing arrangement as well.

I do not foresee West Castle ever being another Banff. If it is, I'm long gone too. I don't want another Banff. At this time though, I don't see why there would be any further development in there other than another lift on West Castle, two lifts on the present mountain in West Castle or Gravenstafel, probably three on Haig and that's it. Then you would be up to 1,500, 2,000 skiers a day there. I would think that would be when you would want to cut it off.

At the present time there is a forestry access road going 10 to 12 miles past West Castle. They control that road, not us, and I'm sure that at no time would they allow us to control it. I think that initially, if we had been smart, we would have taken a lease on that road before it was built so that we could have paid for the road. But

that wasn't the case and right now as far as I'm concerned, I have no desire to control that road. But I do have some desire to control the type of vehicles on it according to the time of year. I do not suggest that if we are going to use it for ski touring that we also use it for snowmobiling. If we can eliminate the noise factor in there - since it is a narrow valley you can hear those lifts banging away from one side of the valley to the other - we'd be stepping ahead. In fact if you go down on the river you can hear the generator going about a mile away.

I think I've answered Ms. Hedenstrom's question, why a lake. It was basically a proposal put forth by someone on my board who wanted to sit in his boat and fish, I guess.

MR. SHEPPARD:

Mr. McKim, this question has to do with the possibility of development of a ski area in the Crowsnest Pass. As you know, the Winter Games were held in Saskatchewan a couple of years ago, and there is possibly a not much more unlikely place for this in Canada than Saskatchewan as far as lack of snow and lack of hills are concerned. Yet they seemed to manage very well and they made their own snow. Would you comment on that, please?

MR. MCKIM:

My attitude toward this particular question, after having been associated with the national ski team for a couple of years, is that this is an opportunity for the best kids in Canada to show what potential they have. Now the big question we have to ask is, do we want international competitors? If the answer is no, then you can run them on any type of mountain you want. But if you want to get a true evaluation of their potential, then you must put them on a mountain or play court that meets international standards.

MR. KINISKY:

The presence of 2,500 people in a place for a day suggests to me a rather large garbage pile developing daily. I'm wondering what sort of a system you propose to dispose of solid garbage.

MR. MCKIM:

I think this falls in line with the sewage disposal problems in any condominium development. We have the technology and the resources to look after our own messes. I think that when we come down to that specific problem we can turn to the technology and say, okay, we need an incinerator, fire by gas, we have to burn this rubbish, bury it, truck it out or make some such arrangement.

MR. KINISKY:

Do you propose that the company will build the condominiums and then sell them to owners?

MR. MCKIM:

I don't know if we can even propose how it should be done yet. You could have a group of people come together and each say, I want a condominium, here is the \$20,000, the \$10,000 or whatever it happens to be, the money for a condominium. Build it for me. We say okay, and these are the terms of reference: you receive access to this during the winter months for 60 days with the balance being open for us as a company to rent out. And if you do not want to use it during

the 60 days, you can then ask us to rent it for you with us taking a handling commission.

MR. KINISKY:

We're talking about the extensive use of public lands. I'm wondering about how much access the ordinary people of Alberta would have to the types of condominiums you are talking about. Is it going to cost them \$60 a day, \$5 a day - what sort of money are they going to be paying for this accommodation?

MR. MCKIM:

Looking at what we have done at West Castle our rates are lower than most, at present, because we have a lower quality of facilities to offer, except for the mountains. It's the best skiing in North America. In time you'd have to sit down and say these are going to be the rates for the condominium and I don't think you can ask for anything exorbitant.

I think we would be defeating the cause because what we're trying to do is build it for southern Alberta first. We don't want to build it for the guy who is going to fly on PWA, then fly Time Airways down here and land in Pincher Creek all the way from L.A. prepared to spend \$150 a day for the combination.

I would just as soon leave the condominium idea unexplored at this time. I've thrown it out, I've given some idea of how we feel we could do this, raising the capital from interested people. If we found that we could build these ourselves and rent them out as hotel suites then there again we would have to at least break even on it.

MR. KINISKY:

So you haven't got your plans formulated to the extent that you could really answer questioning on it?

MR. MCKIM:

No. On the condominiums I don't think we should delve into it because that is quite far away, probably even the summer of '75 would be too soon.

BRIEF TO  
ENVIRONMENT CONSERVATION AUTHORITY  
HEARINGS  
ON  
LAND USE AND RESOURCE DEVELOPMENT  
IN THE EASTERN SLOPES

Presented by:

M. Gibb  
White Spruce Lands Co. Ltd.  
Lethbridge, Alberta

WHITE SPRUCE

HE WANTS TO BE PART OF NATURE AND PROTECT HIS WORLD, BUT HE KNOWS NOT HOW TO DO BOTH

Man is living in a changed society. It is a world with new and exciting challenges, the most creative and imaginative time in history, where sociological and technical advances are unlimited, where leisure as well as social activities are establishing new standards and interests with each new generation. The need to survive in a wilderness area or to combat the elements have become less and less necessary.

However, in achieving these ends, man has gone through a destructive cycle, but now his attitude is changing from that of "worldly progress" at all costs, to that of awareness. Awareness of himself, others, his country and environment. He now wants the opportunities to have experiences in identifying and resolving real life problems; to acquire skills, self-realization during leisure time; for gaining concepts and understanding about people and natural resources; and for establishing a stronger personal relationship with nature.

He wants to do this by escaping from his urban environment, once again returning to the land, to the solitude of nature where we might reflect in peace, breathe clean air, and drink pure water. However, in attempting to readjust and befriend the land he has shown awkwardness, his "urbanness" travels with him to nature, "vehicling" him to mountain tops and headwaters of sparkling streams. For the most part, in trying to escape he is either parking lot located in a forestry slum or desperately protruding into an untouched wilderness. Others contemplate ecology at home yet desire to be a part of their wilderness environment. Therefore, we have two very major conflicting concerns:

1. The desire for people to get away from the steel and concrete jungle to the confines of nature; to be once again a creature of the environment and,
2. The desire to protect the environment.

White Spruce has attempted to bridge these two conflicts.

White Spruce did not come about by chance. Keeping in mind the previously mentioned concerns, the concepts of White Spruce have been slowly and carefully planned.

First: White Spruce property was not picked at random but chosen for its many outstanding qualities relevant to this type of development.

White Spruce: - is deeded property.  
- borders the main and only all weather road into the Westcastle Forest Reserve.  
- is the closest private property to Westcastle ski hill by road. In 1973 it will be within 3 miles of pavement.  
- is magnificently beautiful with an outstanding view.  
- terrain and vegetation cover is varied; limited agricultural potential apart from grazing, but high potential recreation property.  
- has ample water and good fishing. (Beaver Mines Creek and intermittent streams plus 2 or 3 small lakes).  
- borders the Crowsnest Forest Reserve (near heavily used areas - Beaver Lake, Castle Falls, etc.).  
- abuts existing tourist oriented ranches (Buc'horn and J.O. Guest ranch).  
- has Calgary power to the property.  
- is within 3 miles of Natural Gas Lines.  
- most of all, is suitable to allow man to protect his environment and enjoy it.

Second: White Spruce Lands Co. Ltd. is being incorporated as an entirely Alberta owned and based company, all members are Canadian citizens.

Third: White Spruce has engaged a variety of highly qualified consultants, planners and assistants to advise on this development to assure that the objectives would be achieved. (A

great deal of the planning was "heart".)

Fourth: White Spruce will provide a tremendous economic boom to the area; in excess of 3 million dollars of development over the next few years and continued tax and economic benefits to the area, both direct and indirect.

Fifth: White Spruce will take pressure off existing prime farm and grazing land, and still provide an alternative for vacation owners and renters. Presently there are a substantial number of "gentlemen farmers" who own land in the M.D. of Pincher Creek, and more who desire such; White Spruce will provide the alternative.

Sixth: White Spruce will provide people with the best opportunity possible at a reasonable price, to return to the land and live in suitable buildings, protecting valuable natural areas, and providing people with meaningful experience for themselves and their families.

White Spruce is a new concept in living. Man living in a natural environment as one of the creatures of the land, able to enjoy his environment but protecting as much of the land, vegetation, creatures, etc., as possible.

White Spruce:

- will be "model" planned "seasonal" community, village cluster of multi-clusters) reserving as much open and wilderness area as possible for everyone's use. A small proportion of the land will actually be developed for sites; the balance will remain in wilderness state with trails, protected areas, etc., thereby cutting down the need for roads, utility lines, and maintaining natural areas.
- will remain as a working ranch, pasture for livestock, game and timber production (good land management).
- will bring together those people who want to return to the land.
- will have concern for conservation and ecological aspects, and will establish an environment committee within the Home-owners Association.
- will provide deeded ownership, small deeded parcels plus home owner association membership and/or co-operative ownership for common properties.

- will be "clustered" development aesthetically oriented and architecturally controlled. Some of the units will be row units, some will be private individual lots, but all will be legally surveyed.
- will provide each unit with a view of the mountains or similar significant view, rarely will other units be seen.
- will have a concern and dedication for ecology; and conservation will be a must with past history and culture of the area emphasized. (Church, school, buildings, in general). Three existing homesteads will stay intact, with continuous use and maintenance.
- will provide each unit with immediate access to the common properties.
- will by numbers assure protection and social involvement. (Each owner will pay a monthly fee towards continued year round supervision, fencing, garbage control, maintenance, etc.).
- will provide protective covenant within the contracts to provide the properties natural areas and wildlife.
- will plan potential common facilities and home owners social club which may include:
  - Commissary (small service center) which might include: snack bar, dining room, social hall facilities, cafeteria and laundromat.
  - nature interpretation center.
  - development of the open space for outdoor recreation. (Riding, hiking, skidoo trails, etc.).
  - education and recreation center.
  - equestrian center (stables, farrier, training center, hunter trails).
  - swim, water facilities (lake and small swimming pool and tennis courts).
  - maintenance center including fire control.
  - special projects might include: yearly fishing, hunting trails, skidoo trips, New Year's parties, etc.).
  - consider managing and caring of row units, possibly rental of client's units when owners are not using, etc.
  - other facilities and programs as desired.
  - an authority who will be responsible for continued concerns and jurisdiction to guarantee that White Spruce will remain a quality area with man living as a part of his environment.
  - or a resident can just take it easy, sitting by the fire, walking in the wilderness, or resting on a mountain peak.
- last but not least, provide a truly meaningful experience for an individual and a family in a beautiful outdoor setting.

General Comments:

White Spruce wishes to express the following:

- Land in the vicinity of developments but used strictly for agricultural purposes should be assessed only as farms or agricultural lands and not be increased because of recreation potential.
- Basic planning is essential in the Forest Reserve and areas should be established to allow for wise use of all resources, however, true wilderness areas should be established and retained.

"IF WE MUST CHANGE THE WORLD, LET IT BEAR THE MARK OF OUR INTELLIGENCE"

## QUESTIONING BY THE AUTHORITY

MR. KINISKY:

I am, like you, wondering exactly what role the Authority plays in this since you are talking about land that you already own.

Approximately how many people do you envisage being in this area when it is completely developed?

MR. GIBB:

We haven't established that. We are concerned about the environmental impact of people being in the area. It won't be an acre per unit by any means. It will be smaller than that for the actual lot. But 200 of the acres in that neighbourhood would be developed by the cluster method so that there would be approximately 200 people.

The use area will be the main factor. I have a place up there but I don't use it that often. Use by the average family of four means that the impact could be as high as 800 people with 200 units, if we go with that statistic, though we may vary it somewhat. But it will depend - it won't be a heavy-use area if they use it as I use it.

MR. KINISKY:

Are you proposing to go as far as providing urban amenities such as sewage disposal?

MR. GIBB:

We plan on providing adequate water and sewage, natural gas and electricity to the sites in the restricted corner that we will develop. We want to meet the Authority's requirements. It's our intent to go above and beyond that to meet the need.

MR. KINISKY:

Does the Oldman Regional Planning Commission have some control on the densities allowed in this particular area, or will that come forth with the general planning?

MR. GIBB:

They could answer that better than myself, but we have put in a submission and are hoping to negotiate. We have been negotiating with them for six months and asking for any input that they would like to give us regarding all these aspects.

MR. KINISKY:

Approximately what is it going to cost for a person to get a little bit of land out there?

MR. GIBB:

We do not have our cost factors, because of water. We are trying to keep it as reasonable as possible. With water, sewer, natural gas, electricity, roads and the legal survey, we hope it comes in at under \$5,000. Of that, \$1,000 will go to the Homeowners' Association to develop those kinds of sites in the development area as they see fit. We are trying to keep it low so that the average individual who would

like it will have the opportunity to buy. We're going to have low-key merchandising, we hope, with an invitation to southern Alberta, Alberta, Canada - we're very nationalistic at this time.

MR. DOWLING:

Mr. Gibb, can you tell us what market, or who you are trying to serve with this development?

MR. GIBB:

Well, if I had approval tonight, I could phone about 50 who have requested it. That is actually what brought about the consideration. I have had my own place and people have been trying to buy my 40 acres from me for a long time. Finally I got concerned about this situation. Normally I would probably be giving a conservation brief to your organization.

I think there is a market, I think it is mostly southern Alberta, many of the kinds of people that Mr. McKim talked about. I think there is a ready market in that field. The M.D. of Pincher Creek gets numerous inquiries on lands for sale, as do all of the real estate agents et cetera in that particular pass and Pincher Creek.

MR. DOWLING:

Approximately what sort of income group would subscribe to this scheme?

MR. GIBB:

Money is getting tighter, but we have banks today that have done an assessment and are willing to carry it so that if you can buy a car, you can buy a lot. If people want to do that, we're in that price range. We want to develop it in a reasonable sense.

MR. DOWLING:

That's rather general, because the automobile today seems to be more or less a necessity.

MR. GIBB:

Well, for example, one bank has talked to us in the neighbourhood of putting up three-quarters of the down payment over...

MR. DOWLING:

I think you are misunderstanding my question. You will have a number of subscribers for, let us say, the 200 units that are going to be developed. Now these subscribers will come from some income level of southern Alberta society. Now can you tell us approximately what income group that might possibly be?

MR. GIBB:

I think that we will get a variety. I think the majority of our people will be from the middle-class income group.

MR. DOWLING:

I'm not sure I'm satisfied with that as an answer.

MR. GIBB:

I'd like to be more specific, but I'm not understanding your question.

MR. DOWLING:

Are the people buying making \$15,000 a year, \$10,000 a year, \$20,000 a year, \$5,000 a year? They aren't going to be able to do it on \$5,000, I'm sure.

MR. GIBB:

I would think the \$10,000 to \$12,000 a year person would be able to buy that easily.

MR. DOWLING:

When you say you are going to sell these properties, are you selling both the house and land or merely the land?

MR. GIBB:

We're selling the land at this time. There may be companies that would like to put up show homes and sell cabins. They will be architecturally controlled.

MR. DOWLING:

Is it your intention that this development have year-round use?

MR. GIBB:

By "year-round" I mean for vacation purposes, weekends, et cetera, throughout the year.

MR. DOWLING:

What is the likelihood of it becoming a permanent residential area?

MR. GIBB:

It's not our hope or our intention for it to be such. The architecture control orientation will be more to secondary homes.

MR. DOWLING:

Once people have freehold it's their land and it's their house. Is there any way you are going to prevent them from living there 12 months a year instead of using it on a casual basis?

MR. GIBB:

We have our legal people working on that. Possibly that kind of thing will be defined in the restricted and protective covenants.

MR. DOWLING:

What about water supply for this community? Would you be going straight to the creeks or would you be drilling wells?

MR. GIBB:

That's presently with our engineers and they are to provide us with those alternatives.

MR. DOWLING:

Will they also recommend how you are going to dispose of the sewage because this is a fairly large number of people, especially on a weekend. How will you handle the garbage?

MR. GIBB:

We are very concerned about the garbage. As I mentioned, we will have a monthly rate charged to each individual to maintain the area. One I think I mentioned was specifically for garbage. We would hopefully haul it away from the area and have it buried. We're working on that and we're negotiating with our environmentalists regarding those kinds of things.

That's why I was quite concerned in coming here because we're in a preliminary fact-finding situation and if I sound a little general in some of the statements, that's because that's where we are. We would also like input from people, from planning commissions and from yourselves as to the best direction in these particular areas.

MR. DOWLING:

Has your consultant advised you how difficult it is sometimes to get rid of one community's solid waste and put it into another community? With the garbage it's sometimes quite difficult to take it away from where it is produced.

MR. GIBB:

The one person we have dealt with on that has come up with some suggestions of removing it. I have a maintenance centre there and it would be their responsibility.

MR. DOWLING:

Now I notice in the plan you put in front of us that you hope to lease 320 acres to make a parcel out of this. Is this to make up the 1,200 acres?

MR. GIBB:

The land in that particular area that we hold is presently under agricultural lease. It is our intention to keep that property as we are not going to develop it. Our intention and hope is to work something out so we can keep it as an agricultural lease and run livestock on it as a working ranch.

MR. DOWLING:

Are these two quarter sections Crown land?

MR. GIBB:

That's correct.

MR. DOWLING:

Why do you feel you need these two leases in addition to the property you have?

MR. GIBB:

We feel that they fit into the packages and we'd like to keep livestock and animals in there and keep it as one parcel.

MR. DOWLING:

Have you ever considered the possibility that you may be taking a lot of city problems to the country?

MR. GIBB:

Yes, I've considered that. But there are also a lot of problems in the city that might be taken care of if people got to the country. As I said earlier, I think the people who have been here making presentations are people who have lived in the country and have identified with it. Some people can't go out and live in a tent. Some people need to have some kind of identity. It brings an awareness to them. I think this is the best method.

DR. TROST:

Are there supportive or conflicting elements between your project and the West Castle project?

MR. GIBB:

I meant to follow that just a little further. I do want to go on record as supporting a number of developments. We support the West Castle development concept very much. We think skiing is a beautiful thing. We can't say that we go along with it 100 per cent because we haven't investigated it, but we believe in West Castle and we believe in skiing and we think it will be appropriate to them and vice versa.

Further on that, I don't know if we would like to go on record as supporting the Southern Alberta Recreation Association's brief which talked about the zoning factors et cetera and the multiple use through zoning factors. We were very supportive to the Wilderness Association in its context of protecting wilderness. We firmly believe in that. We think that's ideal. The trail system is outstanding.

We have a smaller area which will be denser but we want to put those kinds of management into it. We support game protection groups and West Castle among others. We would hope that some of the ladies who gave those fine presentations would be the kind of people who would be on our ecological committee.

DR. TROST:

Is there any chance your sites would be in any way useful as lodging and so on during the Canada Winter Games?

MR. GIBB:

We would definitely hope that it would be good for tourist accommodation and the visitor population that would be visiting the area. We think we will be very supportive to that area - to West Castle and the skiing.

DR. TROST:

I'm interested in how far advanced your plans are. In this particular context part of the novelty of your approach is not only in the general organization in your area, but in some of the elements that you list in your brochure in the implementation of the scheme. You are, in essence, putting certain elements of the development out to groups who may want to come in and then, if I've understood it correctly, you are establishing a kind of a development authority internally to run it.

MR. GIBB:

Yes, of the members who will be purchasing the area. In addition we are considering bringing in a naturalist or any environmentalist who would sit on it, representation from the M.D. of Pincher Creek for close relationship, maybe the planning commission et cetera who would give continuous feedback.

I personally believe very much in participatory democracy and this is one method by which I think we can do it. We think it is an experimental project in a number of aspects and we want it to be original and good.

DR. TROST:

Is this your intention, or have you already people who are committed to come in with you on this kind of basis? Are there people who are already committed or talking to you?

MR. GIBB:

For example, environmentalists or buyers?

DR. TROST:

No. I'm really thinking of relatively self-contained business operations such as multiple accommodation units, commercial service centres, equestrian and snowmobile centres. They would come in, it says here, under implementation of skiing and presumably be a unit of development.

MR. GIBB:

No. We will offer those situations as we offer the lots. Again that's our firm's potential and we are not sure we accept all of those at this time.

DR. TROST:

Do I understand then that the state of development is that you have both concept and land and you now want to see if you can move forward?

MR. GIBB:

Right. We are three-quarters through the planning stages. We have the many facets that are required to bring that development to a head.

DR. TROST:

Are you operating under any time constraint?

MR. GIBB:

We would like to get started in the very near future. We are a small company. It's been an extremely expensive situation. Going back to what you can buy, I make \$12,000 a year at best. We are not big-time operators. We are a small company of interested individuals who believe in a concept and we would like to become better businessmen.

## DISCUSSION ON WHITE SPRUCE DEVELOPMENT PROPOSAL

MR. KYLLO:

Leo Kyllo, from the Western Conservation Foundation.

The Foundation generally accepts the demand for such intensive developments as Mr. Gibb has suggested. We think it has a possibility in reducing some of the extravagant claims on land such as country residences. Perhaps clustering of development in this manner might be more compatible with the environment than many of the country residences have been in the past.

However, there are some questions. We are concerned about the development, even though it is on private land and with its compatibility with the local and regional functions, in particular with the Buckhorn Guest Ranch which I understand is not operating as a guest ranch at the present time. But it is an adjacent property with access across the site and there's always the possibility that they might have some plans in the future as well.

The community of Beaver Mines, the town of Pincher Creek and the local ranches I think have some concern or should also have some input in the situation. They should not be left out in the cold until the development is in effect.

We also are concerned about the compatibility with the natural environment. Mention was made of an artificial lake and whether or not this goes ahead is, I imagine, under consideration. But there is concern over that particular development as well as general pollution control considerations.

We feel there is a possibility of a great deal of activity bordering on forest reserve lands. This might be good and might be a means of having people experience the eastern slopes forest reserves a little more. But it could also lead to particular problems. I think this is something that should be considered.

I am not entirely sure that the proposal is not asking for particular services at public expense such as has been suggested for the West Castle development. Is there any proposal to have the road upgraded the rest of the way? Are there other public services that are required?

In every subdivision a certain proportion of the land is to be dedicated to a public reserve. This subdivision I understand is going to be on small clustered lots. I have a question as to the amount of dedication and the amount of public access to dedicated lands. Is the dedication based on the total of the 1,200 acres which would mean that about 120 acres would be dedicated, or is it just dedication based on the individual lots that are going to be sold?

Part-time use has been suggested. But in many subdivisions in the past this seasonal use often develops to year-round use or even during-the-week use. A good many resorts or subdivisions have based their estimates for such things as sewage disposal on a seasonal basis and have gotten themselves into trouble later because the people ended up using them at a much higher intensity. This goes for some of the environmental concerns as well. The indication is it is going to be seasonally used and on that basis the environment protection is adequate. It might not be adequate for a more intense use pattern.

Will there be a time limit for the buyers of any particular lot? Will they have to put a development on that lot within a specified time or can they hold it for a period of time as a vacant lot? What rights would they have if this was the case?

MS. HEDENSTROM:

Ms. J. Hedenstrom.

My submission is very, very brief. I think perhaps my name should be on that list as a landowner in the area. Mr. Gibb is on private land and has stressed that in a sense the public has little to say here. Yet when we consider the fact that he is really building a small city on the very verge of a forest reserve and in an area that is unspoiled I think the public concern for the forest reserve is very relevant, especially since he will draw on forest reserve resources for water. The ecology of the area is important and of concern to all of us.

MRS. SHEPPARD:

Mrs. Jean Sheppard.

I would like to know if this development can go ahead right now or does it need further approval from the M.D. or the Oldman River Regional Planning Commission? It does involve subdividing, I believe, and I understand that requires the approval of various levels of government.

You say this is approximately 1,200 acres of which only one-quarter will be under housing. But when I looked at your plans I saw a campground, multiple accommodations - whatever that is - an area for commercial services and cottage clusters, both initially and later. You just indicated the cottage clusters would be 200 acres in themselves because you are planning about 200 units. You have a nature interpretation centre, equestrian area, a skidoo area, lounge and heaven only knows what. But even just from looking at the plan you have it seems to be much larger than 25 per cent of the area.

You state you have two aims for this development. One is to get out of the urban areas and the other is to protect the environment. I suggest that you are really not getting away from the cities when you have 800 people right next door to you. I don't think you are protecting the environment by putting in what seems quite a massive development.

I'm also concerned about matters the Authority raised regarding water and sewage. If you have approval for this I don't see how approval could have been given without the water and sewage plans being known.

There is a small creek going through the area that is used by the residents for fishing. Are the residents of the area still going to be able to use this?

MR. MCCLELLAND:

Doug McClelland, I'm a rancher in the immediate area of the proposed development.

I strongly oppose this development. I believe agricultural land should remain as agricultural land. There is a strong demand for agricultural products. I think we need all the land that we have presently in agricultural use.

The Beaver Mines area where I live seems to be in constant demand by people who just want to get out of the cities. They would like to purchase a small amount of land and have a house on it and this land is then taken out of agricultural production.

Mr. Gibb recognizes this fact. Yet what he does about it is to take 1,200 more acres out of production. He states he is going to raise cattle on this 1,200 acres but I, as a rancher, think this is nearly impossible if you have 800 people running around.

He talks about Beaver Creek. This creek runs right through my land and I would like to emphasize the fact if he is planning on taking water from it that quite often it gets so low that just below his land it goes underground. I suggest that possibly it's not adequate.

He says his operation is a small-time operation and he is just learning. I think anybody who is looking at a \$3 million development is not a small-time operator.

I would like to close by publicly asking Mr. Gibb to attend a meeting that has been organized in the Beaver Mines area. I think the people in the area have a right to know what he is proposing. I really feel this probably should have been done before now. Those people in the Beaver Mine area are the people concerned and they probably have a right to know what is going on.

MR. OSTERBERG:

Dick Osterberg.

Mr. Gibb has borrowed a phrase from President Johnson, "democratic free enterprise". He assured me afterwards that it is a Canadian company so perhaps it doesn't really matter.

One of the first things that comes to my mind is that Beaver Creek originates in Beaver Dam Lake, if I'm not mistaken. I have done quite a lot of work in there so I'm pretty sure that is right. Now we have this project here, the ski resort and then God knows how many more. It seems to me there are going to be enough commercial enterprises there that the pressure on the government will be enough to force paid hunting and fishing in the whole area and restricted travelling by the public. I think that within a few years we will see the whole of West Castle barred to the public altogether. This is just the first one to come. There are a dozen or more to come in sooner or later.

As far as the town is concerned I think it will be a company town. It will all be controlled by the company - the people who buy the houses and any commerical development in the town.

MR. SHEPPARD:

David Sheppard.

I am in full sympathy with the previous criticisms of this development. I think the development is misplaced. I seem to be beating the drum for the Crowsnest Pass but my concern is that unless we can find alternative economic developments, there will be support for strip mining in the Pass, which would in my opinion be disastrous.

Why couldn't a development like this have been conceived for the Crowsnest Pass? I really think it's too bad it wasn't. In many ways it's a good proposal. There need to be environmental impact studies for this proposal. Sociological impact studies are needed and maybe in this case are more important than environmental impact studies. I would hope that the Oldman River Regional Planning Commission would require these studies.

Specifically what kind of environmental controls and pollution controls do you have in mind? How much of the land do you control adjacent to the stream? This stream supports cutthroat trout. It's not a large stream but it still has some fine trout in it and these are located in just a few beaver dam areas. How will the impact of these 800 people be restricted with regard to that fishery? How will that fishery be preserved with this development right next door to it, just across the forest reserve boundary? Who is your environmentalist? Is he an engineer or an ecologist?

I would like to ask about the subdivision of agricultural land. I understand there are zoning laws against this and I would like to know if you have permission to subdivide this land and sell it in small parcels. Do you have an indication that permission will be granted and if so, by whom?

A parcel of Crown land is involved in this transaction and I suggest that no further Crown land in the foothills be sold to private interests. I'm against that on principle. I think that should not happen even if the development somehow goes ahead, which I hope it will not.

MR. NICHOLSON:

Ted Nicholson, of the Oldman River Regional Planning Commission.

First, to set things into general perspective I have a copy of the subdivision and transfer regulations here. These are regulations established under the authority of The Planning Act of the province.

The M.D. of Pincher Creek, within which this development is proposed, has what is known as a development control by-law which is very similar in its effect to zoning regulations. I regret I don't have a copy of the resolutions with me but it is either zoned as agricultural or recreational land. In neither of those categories, as they are presently established, would this type of development be permitted. Therefore this would require a decision by the council of M.D. 9 to change the ground rules.

Secondly, there are quite a few regulations respecting subdivision and you can jump around within these regulations as you can with any other statute. If you are not familiar with them you will think in one section you are okay but in the next section you will find there is a caveat against what you propose.

First among the three more relevant sections is Section 33, concerning subdivision of land into parcels which are intended primarily as sites for permanent dwellings, which requires their approval first within the limits of a city, town or village or in or adjacent to a hamlet.

Secondly, subdivision can be proposed within areas for which an outline plan has been approved in principle pursuant to Section 5, which refers to it being prepared by a planner or other competent expert. An outline plan means in effect a sketch of a road system showing that any proposed subdivision isn't going to inhibit future development of land further down the line.

Thirdly - and this isn't particularly relevant here - subdivision can be proposed for areas within the limits of a new town, these limits being established under the provisions of The New Towns Act, where, in the opinion of the approving authority, special circumstances warrant. The approving authority alluded to is the planning commission.

I'll cite from The Planning Act itself. In answer to some of the questions which were raised I mentioned that M.D. 9 has a development control by-law. Under the terms of the development control by-law it's required that when an application for a development permit - development means anything that is done to the land whether you are putting a road on the land, putting a building on the land or anything else - first an official of the municipality shall conspicuously post a notice of the decision on the property for which the application has been made, or a notice in writing shall be mailed immediately to all property owners who, in the opinion of the council, may be affected, or a notice shall immediately be published in a newspaper circulating in the municipality stating the location of the property for which the application has been made and the use approved. These, in effect, are the responsibilities of the municipality in this circumstance.

Section 110 of The Planning Act states a person affected by the decision made by a development officer or a municipal planning commission - in the case of M.D. 9 the development officer - under the development control by-law, may appeal to the development appeal board as provided in Section 128.

In M.D. 9 the secretary-treasurer fills the office of development officer and the council fills the role of appeal board. These are the checks and balances that are provided under the legislation for people who may feel they might be adversely affected by development.

In regard to our role - perhaps I am putting the cart before the horse - I referred to the municipality since it has jurisdiction over development. Our role vis-a-vis development is to advise and assist municipalities.

Our authority is for subdivision per se. We have not approved or intimated approval of this. We have been aware of it, as Mr. Gibb noted, for some time. He has quite legitimately been trying to get a feel of our position on it and we have been asking him for concrete proposals. I don't mean this in any derogatory sense because I think he is groping his way towards it. But as an approving authority we can only respond to a concrete suggestion. We can advise him what the ground rules and the subdivision regulations are and about The Planning Act.

We have communicated the fact to Mr. Gibb that we are not aware of any development in the Province of Alberta comparable to the particular type of development his company envisages. There are comparable developments in the United States, British Columbia and probably eastern Canada.

I'll borrow a very apt phrase used earlier today by John McInnis in his presentation, "a stance of cautious indecision." We've been maligned before and we'll probably be maligned again for adopting this stance.

We defend this stance in a lot of cases where we have an application before us that isn't clear-cut or based on clear-cut precedents or regulations. It has been our experience and the experience reflected in planning generally that when a land-use decision is made, it tends for all intents and purposes to be permanent. It's not legally or factually irreversible, but it's very difficult to turn back the clock, particularly when you are looking at creating a new land title. In our legal system this is a very sacred document.

I think this is the reason behind the provincial government's establishment of subdivision approving authorities such as the commission, because when you carry out subdivision, in the legal sense of the term you create a new land title. It doesn't matter if it's subdivision into 200 units, such as has been discussed or whether it's a single parcel of land being split into two parts, irrespective of size.

Two of the comments that Mr. Kyllo made, I think are quite relevant. There is considerable pressure for development in the foothills area in the sense of country residences, spots to get away from it all. Perhaps the nub of the question is, should these be scattered around in a fragmented way in the sense that people buy whatever parcel of land they can afford that comes on the market? There may be an existing title containing five acres in agricultural use and somebody may buy it for a country retreat. There is no legislation to prevent this if subdivision isn't involved. They may buy a quarter section or a portion of a quarter section. The alternative to this is the type of development where all these demands are concentrated in a single spot.

Mr. Kyllo made another point that I think is highly relevant. How soon should development be required to occur? I'll cite as an example the subdivision in west Lethbridge. I believe people purchasing lots in that subdivision are required to break ground and commence erection of a dwelling within 12 months, and that they have to complete the dwelling within 2 years.

Assuming that such a subdivision were to be approved in this location or in any other location, would there or should there be a caveat placed on the sale so that the land isn't simply held, either for speculative purposes or to be held by the owner for his old age or for another reason. I am personally aware that this is not infrequent in British Columbia where I come from. I'm aware of similar developments where quite a percentage of lots have been sold, but a very small percentage have been developed with vacation homes, dwellings or whatever. People simply wanted to hold on to a piece of land, either for appreciation of its capital value or because they happen to enjoy the sensation of owning a piece of land. This, I think, is a cultural value inherent in our society and one that can't be ignored.

Mr. Sheppard mentioned that the planning commission should require an environmental study. This is under the jurisdiction of the Department of the Environment. As far as I'm aware, we would certainly recommend something like this to set things in perspective. When an application for subdivision is received, our standard procedure is to send a form letter to all government agencies; this is the local government, the Department of the Environment, the Department of Health, the Department of Highways if it is adjacent to a highway, and any other government agency or department that could conceivably be affected, asking them to comment. In a situation like this, without actually speaking for the department, I would imagine the Department of the Environment would respond by saying they wanted an environmental impact study or something equivalent.

In the approach of the commission to recommending changes in zoning and looking at this type of demand, we would be asking three basic types of questions in this sequence. First, is this type of development justified in the broad area under consideration? If the answer was yes, then we ask where that type of development should be permitted to go. In other words, what area or areas should be zoned or what zoning should be recommended for those types of development? Thirdly, what development rules and regulations should we recommend to

the development authority, which in this case would be M.D. 9, or the council concerned?

MR. GIBB:

I'm surely aware of what the sheep rancher felt like when he first entered the beef cattle country. First of all, I recognize that I have been very negligent in that our company hasn't communicated properly with the residents in our particular location.

In all honesty I must say however that when I initially had an opportunity to buy some property in that area, I approached the M.D. of Pincher Creek and told them of a similar project on a slightly smaller property that we had. At that time they were extremely optimistic and supportive. They suggested that this was the kind of development they envisaged and that it could meet a need.

I've heard many rumours in the past week or so about the kind of development we're putting in there. I've heard about 20-storey apartment buildings and all kinds of things. Unfortunately, I think we haven't given the story in the proper perspective. Many of the questions asked now could have been cleared up and I hoped would have been cleared up by our presentation. I guess you are challenging some of the things we said, and that's fair ball.

We are very concerned with the compatibility of the area and we are looking into that particular area. As far as other districts and regions are concerned, the Buckhorn is presently owned by American interests. It has old buildings and would need total fixing up and reclamation. Maybe you want Americans to do it. That's your privilege I guess. We selected our area initially because it was based on your community's major roads. We didn't want to add new roads because your community had those major utilities in those particular areas.

You mentioned the artificial lake that we are proposing. A small area comes down which is held by beaver dams. We thought we could help the beaver a little bit on one end and make the lake a little more beautiful. Maybe we'll get that kind of reaction from our helpers. But it's not at all definite.

We're concerned with pollution control and we will meet the standards required. I'm sure that the planning commission and the M.D. will make us meet those. We want to meet them. The residents of our community will also want to meet the standards and we will write it in that they will continue to do so.

Regarding utilities financed by the public, it is not our intention to request anything from anybody. We are strictly a private enterprise and we are using what resources we can as a private company. As far as public reserve is concerned it will be appropriate to the community and there will be accessibility. We've talked about using the creek as a trail system to be used by the community. It would also allow for fishing. People would be able to go through that particular area and on up through the creeks into the forest reserve. That definitely meets our philosophy.

As far as seasonal use in the area, I have legal documents in my possession regarding protective covenants which require that the facility be seasonal. We can, in our restrictive covenants, guarantee that it would remain a seasonal and not a permanent use area.

The time limit to build will vary. We will have short and long-term requirements. In all likelihood we will have the option to buy back by certain times with a percentage increase those that do not meet these requirements. So it will be incentive-oriented, using that type of philosophy rather than forced philosophy. There will be certain developments where they will be required to build within a certain time limit.

Mr. Campbell, I want to say this. I concur without question that there are wonderful people in that particular area. I mean that sincerely. But what about the other people? I'm very involved with people, and I love to go up in that area. I think it's an opportunity everyone should have and it should be expanded. Everyone keeps referring to the problems in the city, but some of the problems arise because people have lost touch with the land. What you are suggesting is that other people wouldn't have the opportunity to get back. But maybe some of the good things will brush off on them and they will acquire the feel for the land the residents of your community have. There has to be a sociological reason. So let's use that sociological reason if that's it.

I concur with the study Mr. Sheppard mentioned earlier. My orientation has been sociological. He talked about the grass and the watershed. I would like to suggest that we are as concerned with the grass and the watershed as you are. We owned a half section last year that we thought had been overgrazed so we left it for one year. We let the grass grow, and we are going to be very careful in that area. We're now grazing on it. We want it for agricultural purposes but we thought it needed a one-year rest.

We are concerned with the beauty of the forest. Most of our development will be away from the trees. It will be on the lee side of the road. People won't see the development unless they travel on to the property and unless they go past on our roads, which will be built as our roads. Our company's policy is that for every unit, four to six acres will remain in a natural state.

You talked about Beaver Mines. This is close to Beaver Mines and we'd like to use the service centre. We would like to see it rejuvenated again if that is desired. We would rather not go into the commercial aspects such as the small grocery. However, we understand from a couple of residents that Beaver Mines does not have an adequate water supply. That was one of the reasons we went ahead. Also, we were able to acquire this property, and it has all the amenities we wanted.

You talked about land-use legislation, and I find that a little bit surprising coming from your community, because I've never met more free-enterprising individuals who are concerned with the rights of people and of individuals. You are very fortunate being able to live up there. Your family maybe started out there and homesteaded. I, like many other people, wasn't that fortunate. We'd like to give people the same opportunity in the best situation we possibly can.

You said that a lot of people are going to come into the area. Every summer for four years I have had 120 teenagers pounce on the Buckhorn Guest Ranch. You wouldn't be aware of this as you would not find the area disturbed or the ecology affected. But the 120 would be a maximum at any time, using the area as we foresee it.

You're close to Beauvais Lake. The difference between Beauvais Lake and this development is that we hope to make it a model community and it won't be seen. Your existing roads won't run through it. It's

in the corner of the forest reserve. You can't see it unless you want to go on to our property.

I do appreciate your comments and apologize for not getting in touch with you people before. I think it's good that people react to things. I'm not happy that 40 people were concerned, but I'm damned happy to see 40 people do something and become concerned. I don't believe that they weren't aware of all the facts.

Ms. Hedenstrom, in regard to your reaction, you are very fortunate. You had the opportunity to have that job up on the fire tower. It gave you a tremendous opportunity to become acquainted with the area. However, I thought it was your mother who was overheard to say, regarding your suggestion this morning, "Dear, I wouldn't stay in one of those trailers up in those backwoods." But your mother might stay in one of these developments and she might really love it. Am I right in my assumption of your mother saying that? Well, it was someone else's then. She felt that she couldn't stay in a trailer as she didn't feel secure. It must have been someone outside the hearings.

Mrs. Sheppard, I hope I answered your question. I'm sure Ted answered part of it regarding steps in the planning. There are more steps. We believe in those steps though we'd like to move faster, with more cooperation. I mentioned the four and six acre parcels and I hope that covered your question.

I think I explained to you this morning that this booklet was put out by our engineers. We told them to do a study of the possibilities - our planners - and they came out with it. We haven't necessarily accepted all the factors in there. We have policies that will govern this kind of thing.

There are presently planning requirements that would allow 40 acre units to be cut up. If you'd like to see 1,200 acres cut up into 40 acre parcels with through roads, utilities and the kinds of huts they want, that's a possible alternative. We think we have a better plan.

Regarding agricultural land, if 200 of the acres are developed, 1,000 acres can be used for agricultural purposes. Right now at my place, the natural vegetation of the area where lawn would normally be is eaten down by horses, and we see a lot of game.

As I mentioned earlier, Doug, we're concerned about the water in Beaver Creek and we'd like to work with you on that. Definitely it will have to be appropriate. I have already stated that I will be very happy to meet with the residents of the community and I intend to do that. I wish I had done it a long time ago.

Mr. Osterberg, I appreciated your comments. As far as the game reserve is concerned, I don't think it's going to make any difference whether we have that kind of development or not. I think the game is going to be under pressure. I will say that our 1,200 acres will become a game preserve and there won't be hunting on it. You can call it a town or village, but I suggest that I'd rather call it a seasonal community.

Mr. Sheppard, it's our intention to build away from the creek and we will be very concerned with the erosion control, both from a planning and an engineering point of view. With regard to the fishing, I can't say that we can stop people from fishing, although I hope we can maybe supplement the fishing situation somehow.

Regarding the approval for subdivision, at one time the M.D. thought it was a tremendous idea to take off the pressure they are presently getting to leave the urban environment. We have been contacting you continually. We wanted you to be as much a part of the planning process as possible as far as the regional plan is concerned. We've always taught that philosophy. I concur with you as far as the demand and needs are up there, with this as an alternative. Our company was aware of that and your comments were, should it be allowed? There is no doubt in my mind that it should be if it's properly handled and controlled and we'd like to work with all facets to assure that.

Where should it be allowed? We selected that property because that's where we felt it should be for the reasons I put out in my submission. We sought out that particular property after considering many. As far as rules and regulations for development, we're open and we're studying hard to get as many of those as we possibly can.

LAND USE  
and  
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in the  
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LIST OF  
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The following publications prepared by or on behalf of the Authority are available on request while they remain in stock.

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Information Bulletin Number 4: Commercial Proposals Bulletin.

Information Bulletin Number 5: Planning Statement - Oldman River Regional Planning Commission.

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Information Bulletin Number 7: Planning Statement - Red Deer Regional Planning Commission.

Information Bulletin Number 8: Planning Statement - Peace River Regional Planning Commission.

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\*Being compiled at the time of this listing.





